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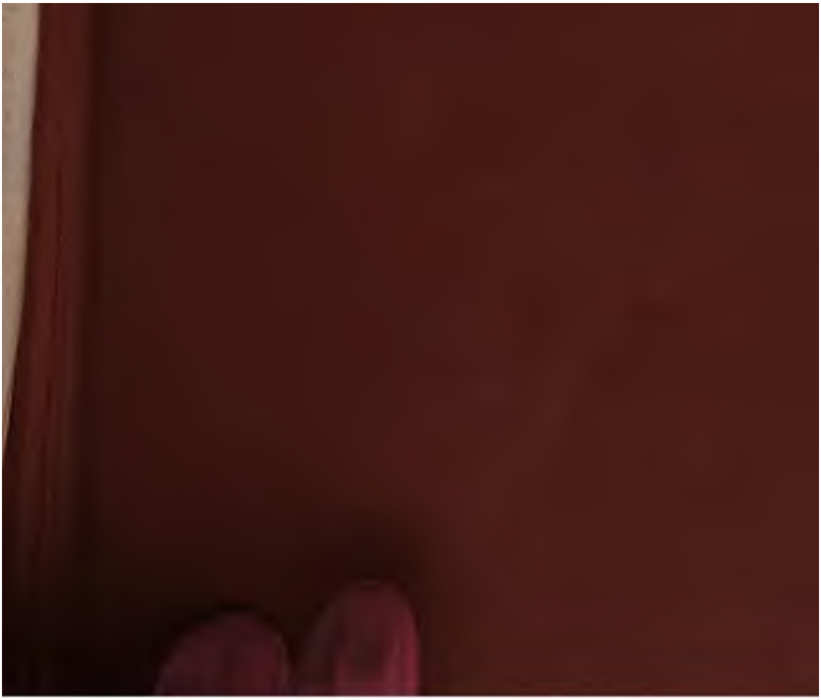

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DISEASES OF WOMEN.

OF THE COLLEGE OF PHYSICIANS OF
PHILADELPHIA, U. S., ETC. ETC.

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1857

TO

WILLIAM F. MONTGOMERY, ESQ. M.D. M.R.I.A.

ETC. ETC.

This Work is Dedicated

AS A

SLIGHT TRIBUTE OF ADMIRATION FOR HIS PROFESSIONAL ATTAINMENTS

OF

ESTEEM FOR HIS PERSONAL CHARACTER,

AND OF

GRATITUDE FOR MUCH KINDNESS RECEIVED FROM HIM,

BY

THE AUTHOR.

PREFACE TO THE FOURTH EDITION.

My publishers having informed me that a new edition of this work is required, I have undertaken the revision with great care; and I trust that it will be found to contain a full account of the present state of our knowledge upon the different subjects treated therein.

A good many years having elapsed since the work was written, and having enjoyed many opportunities of observation and of acquiring knowledge, I have ventured to express the result of my own experience more decidedly.

Some chapters which appeared to me too short, I have expanded; others which seemed redundant, I have pruned, and I have added several entirely new ones.

I have thought that a few illustrations would render the description of certain diseases more intelligible; and these have been added in this edition. Some are taken from original drawings, which were kindly placed at my disposal by my friend Dr. M'Clintock; others from the published works of Huguier, Clarke, Boivin and Dugès, &c. —none from Dr. Ramsbotham.

Altogether I trust that the work, in its present form, may be thought not unworthy of the favor which has heretofore been extended to it, and for which I feel deeply grateful.

15, *Stephen's Green, Dublin,*
Feb. 21, 1857.

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PRELIMINARY OBSERVATIONS.

1. BEFORE proceeding to describe the special diseases of the female genital system, a few general observations on their pathology, diagnosis, and treatment will not be out of place.

First, then, as to the *pathology*. Assuming that the reader is familiar with the structure of the external parts, consisting, as they do, of skin, loose cellular membrane, mucous membrane, mucous and sebaceous follicles, and superficially a growth of hair; we find the *skin* not unfrequently the seat of eczematous eruptions, rendered more obstinate by the presence of the hair and by the disordered secretion of the sebaceous glands. The *labia*, one or both, may be attacked, generally by inflammation terminating in resolution, abscess, or ulceration; or the inflammation may be limited to the vulvo-vaginal gland or some of the mucous follicles. In women who have had children they are often the seat of varicose veins; during pregnancy they may become œdematous, and at the time of labour a vessel sometimes, though rarely, gives way, and they are enormously distended with blood. One or both labia may be occupied by encysted tumours or covered with warts; large pendulous tumours sometimes grow from these parts, and occasionally they are the seat of epithelioma or cancerous growths.

2. The *vulva* may be attacked by a mild form of inflammation, constituting the disease known as infantile leucorrhœa; or in children of bad constitutions, living in impure localities and badly nourished, this inflammation may run on into destructive ulceration. The inner labia are sometimes greatly hypertrophied; and there are cases on record where the clitoris was enormously enlarged, either from hypertrophy of its natural tissue or from deposition of new matter. There seems great probability that a syphilitic taint has generally something to do with these enlargements, but Parent-Duchatelet has shown that prostitution alone does not give rise to an increase in size. The orifice of the urethra is the seat of a vascular tumour resembling an enlarged

granulation, which is not of a cancerous nature, though liable to be reproduced: it generally grows from a small stalk, but in some cases from nearly the whole circumference of the orifice, and, according to Mr. Norman, may occupy a considerable portion of the urethra. The thick cellular and mucous membrane surrounding the urethra, as it passes under the arch of the pubis, is often hypertrophied in women who have had many children, or who have been addicted to sexual indulgence, and, as Sir C. Clarke has shown, may occasion distress. The hymen, if not destroyed, may acquire a density resembling cartilage: if it entirely close the vagina, it must be considered a malformation, and will require division in order to give exit to the menstrual discharge.

The mucous membrane at the edge of the perineum may be irritated or excoriated by discharge; and this irritation, causing intolerable itching, may extend along its external surface and the raphe between the buttocks. Deeper seated inflammation may occur, and an abscess of the perineum be the result. The structures may be more or less lacerated during labor.

3. The *vagina* may exhibit various malformations: it may be unusually short or narrow: it may be divided longitudinally, or it may be closed partially or completely at the orifice or higher up. These deviations may be congenital or the result of disease or injury. The vagina may acquire a great amount of relaxation, so as to permit of its prolapse, and with it, of the bladder, giving rise, as Dr. Golding Bird has shown, to a peculiar change in the urine, in consequence of a portion being retained in the displaced bladder.

The vagina is frequently attacked by inflammation, acute or chronic, giving rise to an increase of the natural acid discharge, which consists mainly of squamous epithelium and its debris, or to discharges of a morbid character. The mucous membrane may also be the seat of eruptions of a papular, pustular, or aphthous character. Ulceration rarely takes place, except where this membrane covers the cervix uteri: here we find inflammation followed frequently by abrasion or erosion, and more rarely by ulceration. The mucous membrane, especially near the external orifice, sometimes acquires a morbid sensitiveness, without any appearance of inflammation, so that contact is intolerable. It may also, but rarely, become thickened.

It may be the seat of various forms of syphilitic disease, and of cancer. It is rarely occupied by morbid growths, except at either extremity.

Inflammation attacking the vagina may extend to the subjacent cellular tissue, and give rise to an abscess between the vagina and rectum.

4. The diseases of the *uterus* may be divided into *functional* and *organic*. The *functional* disorders consist of those variations from normal menstruation, which are commonly described under the terms, amenorrhœa, dysmenorrhœa, and menorrhagia.

These disorders have one peculiarity in common, viz., that they are equally remote from the proper amount and condition of secretion, though in opposite extremes. Menstruation may be scanty, irregular, or altogether absent (whether its place be supplied by vicarious uterine leucorrhœa or not), or it may be in excess.

But this is not all the difference between them: the amount of pain is an important consideration. Menstruation ought to take place without suffering; in most cases there is a certain degree of inconvenience; in many, considerable pain; and in some the anguish is very great.

The character of the excreted fluid varies in different cases: it ought to be of the colour of venous blood; it is sometimes lighter; in others, of a dark colour, resembling pitch, and possessing greater or less density than usual. It has at all times a peculiar odour, which sometimes becomes extremely offensive. In the healthy state it does not coagulate, but in some varieties of menorrhagia, clots are discharged. Menstruation ought to occur every twenty-eight days, and continue three or four, but it may recur much more frequently, or continue much longer. A vaginal examination rarely reveals anything unusual in the state of the uterus; its density and temperature may be increased; the os uteri is more open than usual, and the cervix has a flabby feel, especially when the discharge is excessive.

These menstrual disorders may assume a sthenic or asthenic form: the former is more common with young women; the latter, when the activity of the sexual system has somewhat abated. The peculiar constitution of the patient often determines the character of the functional disturbance. The matter excreted appears to be of much less importance than the regular performance of the function, inasmuch as a vicarious discharge may supersede the natural secretion for some time, without much deterioration of health.

5. None of these disorders, when uncomplicated, have any tendency to run on into organic disease. We see them continuing for years, and yet leaving no pathological traces. Even when, as in menorrhagia, the loss to the system is so great as to bring on secondary attacks, which may prove fatal, there is no evidence of disease discoverable by a *post mortem* examination in the uterus or ovaries: they may be paler or more bloodless than usual, but that is all.

As to the proximate cause of the functional disorders: in many cases it depends upon the condition of the ovaries; in others, upon a defective condition of the blood generally; upon derangement of the circulation in the uterus; upon deficient or disturbed nervous influences, or upon the abnormal state of the lining membrane of the uterus.

The local symptoms to which these functional disorders give rise, are few, and often obscure: there is generally some pain or uneasiness in the pelvis, extending round the lower part of the abdomen and back, and sometimes down the thighs, and occasionally alternating granulation, which is not of a cancerous nature, though liable to be reproduced: it generally grows from a small stalk, but in some cases from nearly the whole circumference of the orifice, and, according to Mr. Norman, may occupy a considerable portion of the urethra. The thick cellular and mucous membrane surrounding the urethra, as it passes under the arch of the pubis, is often hypertrophied in women who have had many children, or who have been addicted to sexual indulgence, and, as Sir C. Clarke has shown, may occasion distress. The hymen, if not destroyed, may acquire a density resembling cartilage: if it entirely close the vagina, it must be considered a malformation, and will require division in order to give exit to the menstrual discharge.

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6. So much for the *functional* disorders of the womb. As to its *organic diseases;* we find it liable to attacks of inflammation, which may attack the lining membrane of its cavity, or the cervical canal, or the proper uterine tissue of the body, or the cervix only, or both; and, under peculiar circumstances, the veins and lymphatics may be the seat of inflammation; and this inflammatory action may be followed by the usual consequences; induration, hypertrophy, softening, ulceration, abscess, and gangrene.

The veins and lymphatics may contain purulent matter, and the uterine cavity may be distended with air, fluid, or degenerated masses called moles and hydatids.

7. *Lesions of nutrition* also occur, and the most frequent result is the formation of fibro-cellular or fibrous tumors. These are of different consistence—either loosely fibrous, soft, and almost granular, or dense, with a fibrous or semi-cartilaginous structure, and occasionally containing portions of calcareous matter. They may be developed either immediately under the peritoneal covering in the muscular tissue, or beneath the mucous membrane. It will be found, however, that their origin involves more or less of the uterine tissue. In progress of growth, they protrude into the abdominal or uterine cavity, and may assume the polypoid form. Their vascularity is seldom very marked.

8. The womb is subject to a formidable series of *malignant diseases,* such as fungous growths, ulcerations, and morbid depositions.

Fungus of the uterus is of different kinds. That denominated cauliflower excrescence in this country, and "*vivaces*" in France, belongs to the class of epithelial cancer, or epithelioma. Its malignancy consists in its obstinate reproduction after excision, and in the fearful hæmorrhage which accompanies it. I have reason to think, however, that in some cases the new growths, after the excision of the primary excresence, may assume a decidedly cancerous character.

Other fungoid productions have been described,—some having a lardaceous texture when cut into, and others resembling fungus hæmatodes. All give rise to hæmorrhage; all make serious inroads upon the constitution long before they prove fatal; and the latter are liable to an unhealthy kind of ulceration.

The form of malignant ulceration called corroding ulcer is quite distinct from ordinary cancer. It resembles most the phagedenic ulceration of other parts, and may probably be correctly classed with the epitheliomata. There is no morbid deposition at any period of the disease. The cervix uteri is almost always the part first attacked, and from thence, in defiance of the most active and judicious treatment, the ulceration spreads with varying rapidity to the body; and if life be not previously terminated, to the fundus. The vagina may participate in the disease, and perforation of the bladder is a common occurrence.

Carcinoma, or cancer of the uterus, according to Dr. Copland's excellent description, consists of "two distinct substances; the one hard, fibrous, and organised; the other soft, and apparently inorganic. The former composes the chief part of the diseased mass, and consists of septa, which are opaque, of a paler colour than the soft part, unequal in their length, breadth and thickness; disposed in various directions; sometimes forming nearly a solid mass; in other instances, a number of cells or irregular cavities, which contain the soft part. This latter is sometimes semi-transparent, of a bluish colour, and of the consistence of softened glue; at other times more opaque, softer, somewhat oleaginous, and like cream in color and consistence."* The former is the cellular tissue in a state of induration and hypertrophy; the latter is the morbid secretion or deposition characteristic of the disease, and exhibits the ordinary histological characters of cancer.

There are some variations from the ordinary proportions of the constituent tissues, and occasionally blood appears mixed with the softer matter; and these varieties have hence acquired different names—such as cephaloma, hæmatoma, encephaloid matter, &c.; but they do not differ essentially, and they run a similar course.

The carcinomatous deposition may take place, *first*, in the neck of the uterus alone—and perhaps this is the part primarily affected in most cases, owing, as Sir C. M. Clarke supposes, to the numerous sebaceous glands with which it is supplied: *secondly*, in the body of the uterus alone, the cervix being intact: *thirdly*, in both these parts at once: *fourthly*, in the cellular tissue connecting the uterus to the neighbouring parts, or in the small glands which are embedded in it.

The increase of bulk from the morbid deposition is often very considerable, even although ulceration may have proceeded so far as to cause death. From the ulcerated surface an irregular fungus springs, extremely tender, and discharging a fœtid, unhealthy sanies. In some cases, though rarely, the ulceration precedes the deposition, which takes place as the disease advances: to these the name of cancerous ulceration has been given, and to the others that of ulcerated cancer. The former are much more rare; and in the instances which have come under my notice, the duration of the disease seemed prolonged, but the symptoms were the same as in ulcerated cancer.

---

* Dictionary of Pract. Med. p. 283.

9. The uterus is also subject to various *accidents*—such as rupture, displacement, &c.

The former occurs most frequently at the conjunction of the vagina with the cervix uteri, and is generally the result of narrowness of the upper outlet, and the violent propulsion of the child by the labor pains; or it may take place in any part of the uterus, as a consequence of disease; or, lastly, it may happen from closure of the canal of the cervix in old women, the accumulation of mucus in the uterine cavity, and the thinning of some part of the parietes and rupture, just as we see in abscess. Partial rupture, *i. e.* rupture of the serous or muscular tissue alone, has also been observed.

Displacements of uterus are consequent upon a relaxation of the usual supports of that organ, and an expulsive force more or less suddenly applied. According to the modifications of these two conditions, we may have inversion, retroversion, anteversion, and prolapse of the uterus.*

---

* The following tables exhibit the frequency of disease, as it occurred at Guy's Hospital, London. They are given by my friend, Dr. Ashwell, in his Statistical Reports:—

INTERN CASES.	
Amenorhœa	32
cum Amaurosi ...	1
— Chorea ...	2
— Epilepsia ...	3
— Hemiplegia	3
— Hematemesi	1
Carcinoma Uteri	39
Carcinoma Vaginæ	4
Catarrhus Uteri	1
Catarrhus Vesicæ	1
Cauliflower Excresence ...	1
Chlorosis	25
Dysmenorrhœa	7
Fungoid Excrescence ...	1
disease of ext. genitals	1
Hydatids of Uterus	2
Hydrops Ovarii	23
Hysteria	12
Hysteritis	1
Induratio Oris Cervicisq. Uteri	14
Inflammatio Oris Cervicisq. Ut.	21
Irritable Uterus	9
Leucorrhœa	21

EXTERN CASES.	
Amenorrhœa	80
with Epilepsy ...	2
— Chorea ...	1
Carcinoma Uteri	66
Vaginæ	1
Catarrhus Uteri	2
Chlorosis	64
Dysmenorrhœa	3
Hydatids of Uterus	2
Hydrops Ovarii	9
Hysteria	62
Induratio Oris Cervicisq. Uteri	21
Inflammatio Oris Cervicisq. Ut.	16
Irritable Uterus	10
Leucorrhœa	227
Menorrhagia	61
Procidentia and Prolaps. Uteri	119
Vaginæ	5
Vesicæ	7
Retroversio Uteri	2
Tumor Ovarii	27
Uteri	7
Vaginæ	3

10. The *fallopian tubes* undergo morbid changes similar to those which take place in the uterus; but the affections to which they are most subject are—1. Obliteration of their canal, partially or wholly. 2. Distension by serous, purulent, sanguinolent, tubercular, or encephaloid matter. 3. Adhesions to the uterus, ovaries, or abdominal parietes, by which means the collection of matter alluded to is sometimes evacuated.

11. As we might expect, the *ovaries*, during their period of activity, are obnoxious to irritation, congestion, inflammation and its consequences, abscess, dropsy, &c. Afterwards, though less frequently than in the uterus, we find fibrous and malignant growths. Displacements very rarely occur independent of the uterus, but in all these the ovaries more or less participate.

12. Some additional light may, perhaps, be thrown upon these pathological conditions and the period of their occurrence, if we briefly consider the anatomical changes which the uterus and appendages undergo at the great epochs of human life, and the predisposition thence arising to certain diseases.

Before menstruation commences, the uterus possesses a very dense structure, with a supply of vessels and nerves sufficient for its nutrition, but not more. Its substance is of a light flesh colour, and its lining membrane pale. The ovaries are small, pale, and undeveloped.

Up to this period, diseases of the internal organs are extremely rare, almost the only abnormal states being errors in development or growth; in other words, monstrosities by defect or excess.

13. But if we examine the womb *during menstruation*, we shall find that a considerable change has taken place. It will be found to have increased in size, and to be of a softer and more spongy texture; the vessels are enlarged and carry more blood, a corresponding space having been provided for them in the interstices of the uterine fibres. The nerves, too, are more perceptible. The mucous membrane is of a florid red colour, and covered with the menstrual discharge.

Tables continued.

INTERN CASES.	
Menorrhagia	15
Polypus Uteri	7
Procidentia and Prolaps. Uteri	39
Prolapsus Vaginæ	4
Vesicæ	3
Prurigo pudendi	1
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Uteri	23
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Vicarious Menstruation ...	2

EXTERN CASES.	
Tumor meatus Urinarii ...	6
Vicarious Menstruation ...	3

—*Guy's Hospital Reports*,
No. 1, 4–6.

It is true that during the intervals of menstruation these peculiarities are softened down; but the essential characteristics remain, and a foundation is laid for a new train of pathological phenomena.

14. *After this occurrence*, the patient becomes liable to various functional disturbances and local congestions: if the latter be excessive, a discharge of blood may take place. Neuralgia of the uterus, hysteria, leucorrhœa, and inflammation, with its consequences, may also be included in the list, although the latter is more frequent at a later period. The sympathetic influence which the establishment of this function exercises over other and distant organs, ought at least to be mentioned as important in the history of their morbid states. The brain and nervous system, the stomach and intestinal canal, are exposed to new and energetic influences, which, when abnormal, may give rise to disease, or the phenomena of disease, in those organs.

15. A further change takes place *after impregnation* and *during gestation*. The mucous membrane lining the uterine cavity, which, in a healthy subject, and under ordinary circumstances, secretes but a moderate quantity of fluid, now becomes more vascular, and is quickened into increased action for the production of the membrana decidua. The substance of the womb loses its peculiar density, and the interlacing of its fibres becomes very evident, the interspaces being greatly enlarged for the accommodation of the blood vessels, which (especially at the part to which the placenta is attached) are very much increased in size, and carry many times the ordinary quantity of blood. The lymphatics and the nerves are also proportionably developed.

The fallopian tubes and the ovaries, more especially the one from which the germ escaped, are more vascular than usual, and increased in volume.

The principal uterine disorders which are observed *during gestation* are in accordance with the anatomical condition of the organ, and consist of disturbances of the circulation—as congestion, hæmorrhage, inflammation, &c.; of neuralgic pains, and spasmodic contractions of the uterine fibres.

16. *After a safe delivery* and a normal convalescence, these peculiarities of course lose their prominence; but the womb is not left in the same state as before conception, and every succeeding pregnancy developes more strikingly these changes. The vessels which were so much elongated become tortuous; their coats are thicker and their calibre greater than natural. The nerves, also, though not so large as during pregnancy, remain of a considerable size, and tortuous. The substance of the uterus does not recover the same density as previously, unless at a considerable interval after delivery. It not very unfrequently happens that the involution or restoration of the uterus to its ordinary size is arrested from some cause, probably a degree of inflammatory action; and this enlarged condition may continue for a long time, giving rise to certain mechanical symptoms, and liable to renewed attacks of inflammation, and leading ultimately to a suspicion of primary hypertrophy.

Now, the diseases which prevail from the period when *childbearing commences until it is concluded* answer exactly to these anatomical peculiarities. During this time there is much organic activity, the amount of blood in circulation is very considerable, and the nervous influence is powerful; we find, accordingly, that inflammation of the lining membrane, and of the substance of the womb, is much more frequent than at any other period. Moreover, these circumstances would lead us to expect both hæmorrhages and neuralgia, and they are frequently observed. During the earlier portion of the time allotted to childbearing, we seldom see ulceration to any great extent, and lesions of nutrition are not very common. Towards the latter part of this period we may perceive a gradual transition from diseases of a sthenic to those of an asthenic character, corresponding to the anatomical change effected in the organ.

17. In *elderly women* the following peculiarities are observed in the uterine system.

The vessels and nerves have diminished in calibre, and the coats of the former are occasionally found diseased. The lining membrane of the uterus is thicker than at an earlier age, and in general pale. Its substance has acquired nearly its primitive density throughout, and even more at the cervix, having, in fact, a semi-cartilaginous character. Its cavity is reduced in size, and the canal communicating with the vagina is nearly, and in many cases quite obliterated.

The vagina and uterine ligaments having been so often put upon the stretch, are greatly relaxed. The ovaries are atrophied, and their coats so shrivelled that they appear divided into small lobes.

In accordance with these changes, we find active inflammation much more rare, but destruction of the substance much more frequent. Hæmorrhages take place, but of a more passive character. The pathological phenomena observed at the cessation of menstruation, arising from disturbed nervous influence, irregular circulation, &c. are followed by lesions of nutrition, and malignant growths and depositions.

An accumulation of mucus in the cavity, the canal through the cervix being obliterated, may ultimately lead to rupture of the uterus; and the relaxation of the natural supports of the organ readily admits of prolapsus.

18. I have thus, in a cursory way, pointed out the different lesions to which the uterine system is obnoxious; and, by tracing the anatomical changes which are effected at the great epochs of female life, I have shown that they correspond accurately to the character and succession of the diseases which we observe in practice. The subject possesses great pathological interest, nor is it devoid of practical use; inasmuch as, by anticipating the maladies to which each period is liable, we can use such means as experience may suggest, to prevent or to mitigate them.

It is unnecessary to do more than merely allude to the influence of uterine disease upon the general health. Whether the due performance of the functions of these organs adds to the health of the individual or not, it is quite clear that, during the period of activity of the sexual system, its derangements are most injurious, and that in proportion to the extent of the mischief. The stomach and intestines, the nervous and vascular symptoms, exhibit exquisite and extensive sympathy with diseases of the uterus and ovaries. It is remarkable, however, that after the cessation of menstruation, certain diseases may continue for a long time, without giving rise to any symptoms.

On the other hand, it is quite necessary to point out the effects of derangement of the general health upon the production and perpetuation of uterine disease; for, in the present day, there is much danger of our regarding the latter class of diseases as purely local, in consequence of the special attention devoted to them, and the local character of the remedies principally recommended. Chronic disturbance of the stomach and bowels or liver, long continued disease, or a broken down condition of the system, may as certainly favour the production of uterine affections as the opposite condition of high nourishment and plethora. Therefore, in our treatment, we should never neglect to take proper steps to restore the general system to health, as well as pay proper attention to the local derangements.

19. The *causes* of disease in the sexual system of the female are, 1. Those which give rise to disease in other organs, such as cold, epidemics, disordered bowels, &c. &c. 2. Those which are connected with the natural and healthy performance of its functions, *e. g.* childbearing, &c. 3. Injuries from excessive use, or occasionally from the more moderate exercise of certain functions, *e. g.* diseases of the vagina and cervix uteri, from excessive or incomplete coition, &c. 4. Certain anatomical or pathological changes, *e. g.* the closure of the canal through the cervix uteri, &c.

20. The *diagnosis* of uterine disease is of great importance, and requires both experience and skill.*

Information for this purpose is derived from three principal sources: 1. From the symptoms. 2. From a manual or tactile examination. 3. From a visual examination with the speculum. A few words will explain the peculiarities and advantages of each.

I have already mentioned the paucity and obscurity of the local symptoms in functional disorders of the uterus; and although in the organic diseases there can be, perhaps, but little doubt as to the locality of the affection, still we must often be uncertain as to its character, and unable to distinguish one from another, or the uterine from the ovarian. For example—deep-seated pain accompanies irregular menstruation, inflammation, and ulceration: hæmorrhage may result from fungous growths, polypi, or ulceration, and may occur independently of them: increased discharge may arise from inflammation of the lining membrane, or from simple ulceration; and fœtid discharges may proceed from corroding ulcer or from cancer; and the secondary symptoms are not distinctive of any special form of uterine disease, but are more or less common to all. It is true that a careful collation of all the symptoms in an individual case will sometimes clear up the difficulty; but the majority of the errors in diagnosis (and they are numerous) arise from trusting too much to this source of information, and neglecting to combine it with others more certain and more fruitful.

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* Dr. Ashwell's excellent paper in Guy's Hospital Reports, No. 5, p. 410; and Dr. Simpson's papers.

In all investigations into the symptoms of uterine disease, we should, first of all, localise the complaint as far as possible, and then trace its effects upon the different functions. The discharges should be carefully examined, and their relation to the menstrual secretion ascertained; that is to say, whether they occur about the same time, or during an interval; whether they increase or diminish before or after menstruation; whether the colour varies from what is usual; whether they possess an offensive smell; and, if the discharge be sanguineous, whether it commenced at a menstrual period; whether it be accompanied by pain or bearing down, &c. These points should be cleared up as far as possible, and even then there will always remain much that is doubtful. But, as if to compensate for the insufficiency of the ordinary symptoms, we are possessed of other means for acquiring a knowledge of these complaints, which, combined with those just noticed, will in most cases, if carefully exercised, leave little room for mistake.

21. I allude to the *second* means of diagnosis, a manual or tactile examination. The extent and accuracy of the information thus obtained is very remarkable. By the "*toucher*" we are enabled, with considerable certainty, to decide the question of functional or organic disease: we can ascertain the degree of heat and moisture of the vaginal canal, the character of any discharge, the state of the cervix uteri and the lower part of the body; we can discover the presence of ulceration, of lacerations, and of displacements, with the amount of injury; we can detect the existence of schirrus, cancer, or of morbid growths; and, by combining internal with abdominal manipulation, we may throw light upon the distinction between uterine enlargements, pregnancy, and ovarian disease. These and many other valuable and practical observations result from this mode of investigation.

A few words upon the mode of making a vaginal examination may be useful. If the disease be one involving or supposed to involve the depression of the pelvic contents, it will be necessary that the patient should be in the upright position: in other cases she may lie on her left side. The labia are first to be separated, and the fore-finger (previously well oiled) is to be passed from behind forward, until it enters the vagina. It is then to be passed from before, backwards and upwards, until it reaches the os uteri; taking cognizance by the way, of the circumstances I have before noticed. When at the os uteri, we can ascertain any morbid changes there, or affecting the body, and also the state of the upper part of the pelvis. When we have obtained all the information we can, the finger may be withdrawn. The greatest gentleness should be used, and the examination should be repeated as seldom as possible. It is rarely necessary to introduce more than one finger. In cases where the bladder is implicated, a catheter introduced into that viscus will aid our investigation. An examination should not be attempted too soon after great exertions: it will not be borne during the acute stage of inflammation of these parts, and in some cases we must be cautious how we receive its evidence.

The principal points to which our attention should be directed, when making the examination, are, the state of the vagina, as to calibre, heat, moisture, and sensibility; the condition of the pelvic cavity, whether unusually empty or filled, and by what; the elevation of the os uteri, its patency, sensibility, and integrity; the density of the cervix, its sensibility, and freedom from morbid growths or ulceration; the position or volume of the womb, its mobility and sensibility. The nature of the discharge may be ascertained on the withdrawal of the finger, and its examination under the microscope may sometimes decide very important questions. If there be a breach of surface, its extent should be ascertained, and the co-existence of morbid deposition investigated. If there be hæmorrhage, the condition of the body and cervix uteri is of importance, and should be carefully investigated; and also whether there be any fungous or polypous growths.

22. I have alluded to *abdominal manipulation* as an adjunct to the "*toucher;*" by it we are enabled to estimate the size and shape of a uterine or ovarian tumor, to conjecture (by the degree of mobility) the presence or absence of adhesions, to appreciate density of structure, to detect the existence of inflammation, &c.

We may add to these an examination "*per rectum*," from which very valuable information is often derived, and doubtful points cleared up. The state of the body and ligaments of the uterus is thus, to a certain extent, brought under our observation, the size of a morbid enlargement may be better estimated; the distinction between uterine and ovarian disease more clearly made out; existence of pelvic tumors, of abscess between the vagina and rectum, and the limits of each, can be more thoroughly investigated.

We have seen that by the touch, in connexion with the local symptoms, we can obtain information on all points except that of colour; and the accuracy of the knowledge so acquired is scarcely, if at all, inferior to that obtained by sight. It is very true, that a delicate sense of touch, and much experience, is necessary to the attainment of this degree of perfection; but it is equally certain, that perseverance in availing ourselves of every opportunity (both on the living and dead body) will ultimately be crowned with success.

23. We are indebted to my friend Professor Simpson for a valuable addition to our tactile means of diagnosis, by which we are able to ascertain the permeability of the canal of the cervix, the length of the uterine cavity, to a certain extent its condition, and the mobility of the body of the uterus.

The *uterine sound* consists of a thin stem of German silver set in a wooden handle, and flexed at the opposite extremity to correspond with the angle formed by the cervix uteri and the vagina; the handle is rough on one side and smooth on the other, so as to indicate the aspect of the point of the instrument. It is divided into inches, and has a slight elevation at about two and a half inches from the point, to mark the normal depth of the uterine cavity. When introduced along the finger into the upper part of the vagina, with the point directed anteriorly, it will very nearly correspond to the os uteri, and with a little management may readily be passed through that orifice, and to the fundus uteri. If the point should catch in any of the folds of the mucous membrane, it should be withdrawn a little, and no force whatever should be used to overcome resistance: the fact of their being resistance should instantly lead to a careful investigation of the cause. By the assistance of this instrument, we can, as I have said, detect any narrowing of the canal of the cervix, and also, any deflexion from the direct line, any obstacle in the cavity, any unusual tenderness of its inner surface, and any degree of immobility of the uterus. It will aid us to detect fungous or polypous growths from the internal surface, retroflexions or anteflexions, and in some cases enable us to decide whether an abdominal tumour is uterine or ovarian.

The instrument has recently been the subject, with others introduced by the same distinguished author, of so much obloquy, that it seems but just that I should here express my own opinion of its great value in experienced hands; at the same time I must add by way of caution, that it is one by which much mischief may be done, if it be not used wisely and with great gentleness. The uterus, even in a state of health, is by no means insensible, but in disease it may become very sensitive, so that the careful use of the uterine sound may be occasionally followed by severe pain, and its indiscriminate and rough employment may be highly injurious.

24. Another very great advantage in the investigation and diagnosis of uterine disease, is derived from the power we possess of *dilating the os and cervix uteri*. We may thus obtain an examination with the finger into the condition of the lower portion of the cavity at least, and be able, for example, to detect erosion of the canal, or intra-uterine polypi, which, without it, would be quite out of reach.

Prof. Simpson employs for this purpose a series of prepared sponge tents, each succeeded by a larger one, until the necessary amount of dilatation is attained.

Dr. Protheroe Smith has an instrument by which he dilates the cervix, somewhat resembling that used for seizing and crushing the stone in lithotrity. I prefer the sponge tent as being safer and less irritating, and I think more effectual.

25. Much light may often be thrown upon the nature of tumors in the pelvis, by a knowledge of their contents, which we may obtain by the employment of the *exploring needle.* There are few cases in which the puncture of a fine needle will do any injury, and in many we may be able to decide upon the propriety of a further incision to evacuate the contents, or of the necessity of adopting other measures. This knowledge may be of extreme importance in the case of tumors complicating labor; and it is of great value as a means of diagnosis in more ordinary or less dangerous cases.

26. Moreover, by submitting a portion of the contents thus obtained to the *microscope*, we may in many cases be able to decide upon the nature of the disease; and as our knowledge of this admirable instrument increases, it will, no doubt, be found a most effectual help. Much information may also be derived by submitting a portion of the uterine or vaginal discharges to a similar minute examination.

27. So far our means of diagnosis are by no means insignificant. By combining a vaginal and rectal examination of the vagina and uterus (dilated if necessary) with abdominal manipulation and a chemical and microscopical investigation into the nature of the discharges or contents of tumors, very much information will result of the most valuable kind, deficient in one point only, viz., a knowledge of the appearance of the part affected. As concerns the vagina and cervix uteri, this deficiency is to a great extent supplied by the use of the *speculum*, to which we undoubtedly owe much of the recent extension of our knowledge of uterine and vaginal diseases. There are, however, very considerable difficulties in the way of its use becoming common. It requires greater exposure, and is more offensive to feminine delicacy than examination by the finger. In some cases it is much more painful. The information it affords is also more limited, and it cannot always be employed.

It enables us to ascertain accurately the length and thickness of the cervix uteri,* to detect variations from the natural colour of the mucous membrane, slight erosions which might be passed over by the finger, elevations on the cervix uteri or walls of the vagina, too little raised to impress the sense of touch; small vesicular polypi within the os uteri, eruptions upon the cervix, and we are enabled to discover the colour of the surface of an ulcer. It will also confirm many characters recognised by the touch. On the other hand, we must be careful that

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* A description of the state of the neck of the uterus before and after impregnation, as observed by the speculum, was published by Dr. Marc d'Espine, of Geneva, in the Archives Generales de Medecine for April, 1836, and as it throws considerable light upon the first steps in all pathological investigations (i. e. a knowledge of the natural condition of parts), I shall offer no apology for translating the most important portion of the memoir. "The cervix uteri, examined by the speculum, in healthy females who have never been pregnant, resembles a small nipple, having a greater length than breadth, deeply situated, and somewhat above the axis of the vagina. The orifice is

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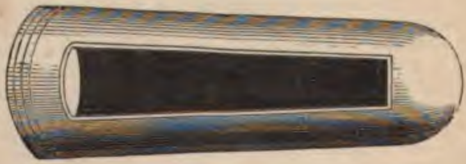
round or triangular, its vertical and horizontal diameters being always equal. The measurements of the neck are pretty accurately as follows: the diameter of the base of the cervix is from 6 to 9 lines (12 lines make an inch of our measure), the length of the neck from 12 to 10 lines, and the diameters of the orifice 1 or 2 lines at most. There are some exceptions, however, for out of 29 females—7 having been pregnant—who were examined one or more times with the speculum, 22 answered to the description already given, and 7 differed from it, 4 of them having the cervix larger, and 3 having it less prominent or entirely flattened. In two of them, the orifice, instead of being round, was triangular, and resembled a slit, but much smaller than is usual after bearing children. Age alone appears to have very little influence upon the dimensions of the neck of the uterus; for, among the seven cases of exceptions to the ordinary rule, but one was more than 30 years old, whilst, among the 22, there were three who had exceeded that age. On the other hand, a great change takes place after bearing one or more children at full term: in the first place, the cervix is increased in volume, and more or less flattened; so that the diameters of its base are always greater than its perpendicular length. It has also lost its mammellated shape, and that form of orifice which was the exception in the virgin uterus is now the rule; it is almost always linear, very rarely indeed round or triangular. The length of the transverse fissure varies, but it is never less than three lines, and it may be from six to eight; in one case it measured an inch. There does not appear to be a great difference between the cervix uteri of those who have borne many children and those who have had but one; in the former, the neck is somewhat more voluminous, and the orifice larger. In females who have conceived and been delivered prematurely, the change in the os and cervix uteri will be found to accord pretty much with the period of delivery; after the fifth or sixth month it will nearly resemble the same organ in primiparous females: before that period, but little alteration will be discovered. The diameter of the orifice in both cases is very small. In three women who were pregnant, the parts presented the following characteristics when examined by the speculum: the cervix was more or less enlarged, it was soft, and the lips swollen; in two the orifice was so dilatable that a tolerably large sized bougie could be introduced. This latter peculiarity is important, since it never occurred in 77 women who were we do not mistake for morbid changes those appearances which are caused by the instrument itself. For instance, pressure on the outer end of the instrument may change the elevation and position of the uterus, and produce swelling and puffiness of the cervix. There can be no doubt of the great value of the speculum, both for the detection of disease, and the application of remedies; but it is possible that injury, beyond the violation of delicacy, may be occasioned by it. It should never be used, if it be possible to avoid it, in virgins: or when there is any alteration of tissue, involving its greater liability to laceration, and as rarely as possible with nervous women.

28. Several species of speculum have been invented. I shall notice but a few.

For the purpose of examining the parietes of the vagina when not particularly tender, I have had one made which answers the purpose very well. It consists of a metal tube of sufficient diameter to keep the vagina tolerably distended, with the inner end closed and rounded, and a fenestrum extending nearly the whole length of the speculum. (Plate 1, Fig. 1.)



It is introduced without much difficulty, and by turning it round, every part of the vaginal surface can be successively examined.

Mr. Beaumont, of London, has described a new *speculum vaginæ*, consisting of five steel blades (Plate 1, Fig. 2, *a a a a*), each three inches long, fixed round two-thirds of a hemisphere (*b*), of rather more than one inch in diameter; when unconfined they diverge so as to form at their unattached extremities a portion of a circle of three inches

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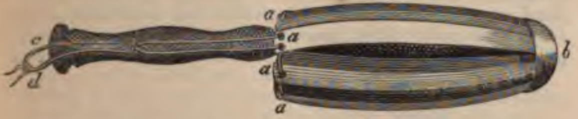
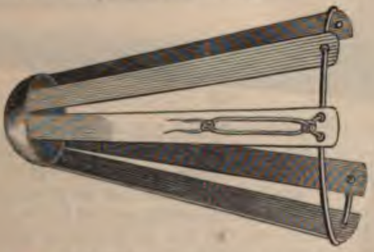
not pregnant. There still remains one observation, as to the value of the notched or sinuous state of the os uteri, and the indications to be drawn from it. By examining the cases in which it occurred, we arrive at the conclusion, that in general it is only found in those females who have borne many children; but there are primiparous cases in which we meet it, where the labour has been accompanied with difficulty, violence, or accident."

in diameter. In the centre of the hemisphere (*b*) there is a hole to receive a short screw fixed at the extremity of the handle (*c*).



"Before introducing the speculum, the blades are to be drawn together by means of the string (*d*), a loop of which is caught in the peg (*e*) of the handle (as seen in Plate 1, Fig. 3). When the instrument is passed fairly into the vagina, which should be done slowly with a very slight rotatory motion; the string (*d*) should be raised from off the peg, and the blades suffered gradually to expand. The handle (c) is then to be unscrewed and withdrawn, and the speculum will be left as it is seen in Fig. 2, giving an uninterrupted view of nearly one-third of the parieties of the vagina."*



Dr. Keiller, of Edinburgh, recently exhibited a speculum at the Obstetrical Society, which he had found peculiarly useful in the treatment of urinary and fœcal fistulæ. It consists "of a single branch or blade, with a handle attached at an obtuse angle, like that of a blunt gorget, and which, when used conjointly with the original two-branched instrument of M. Ricord, or the improved speculum of Charriere, without its third or sliding blade, can be readily moved, by means of the handle, so as to stretch at pleasure any point of the vaginal wall on the sides or extremity of the blade, without withdrawing the speculum used for dilatation."†

I prefer the fenestrated speculum before described, as being less complicated, and of more extensive application.

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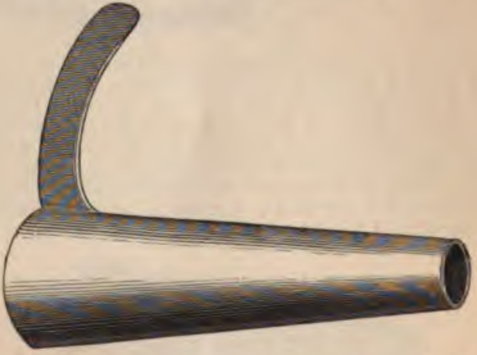
* Med. Gazette, vol. 20, p. 122.

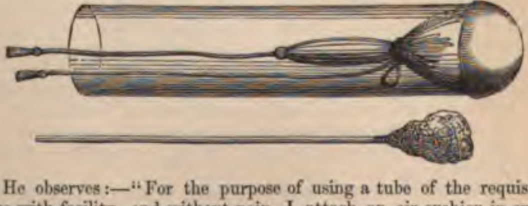
† Edin. Monthly Journal, vol. 9, p. 559.

28. The *speculum uteri* may vary in form and dimensions. Some are cylindrical, others conical. Until comparatively recent times, the speculum uteri used in these countries consisted of a conical tube of metal, sometimes entire, sometimes divided into two blades, so as to admit of dilatation when introduced. The inner surface should be polished, and an obturator fitted to it, to facilitate the introduction.



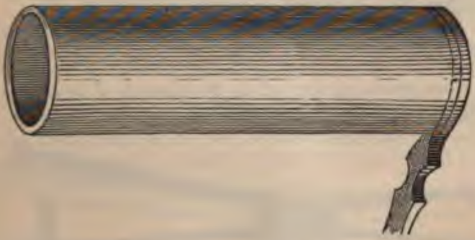
This (formed of metal or of glass) is the speculum used by Lisfranc, Recamier, &c. The conical form is manifestly an objection, for it neither facilitates the introduction, nor the view of the parts when introduced; and it is inconvenient, inasmuch as the widest part of the instrument is thrown into the narrowest part of the vaginal canal.

I believe Mr. Fenner was the first to propose a cylinder of equal diameter instead, with an additional improvement.

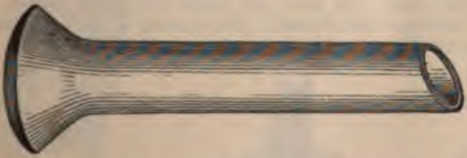


He observes:—"For the purpose of using a tube of the requisite size with facility, and without pain, I attach an air cushion in such a manner, that its soft elastic projection might previously produce dilatation, and, by overlapping, might protect the parts from the pressure of the edges of the tube, as seen in the accompanying sketch. Small bladders, or the crops of poultry, partly distended with air, and disguised by being stained with orchel, answer the purpose of the cushions, and can readily be procured. The cushion is formed by twisting the depending portion of the bladder, so as to force the air into its superior part, and then tying it with a silken cord in a slip knot, leaving the end long enough to extend below the bottom of the tube. When fairly introduced, the air is to be evacuated by pulling the cord, and the cushion may then be removed."

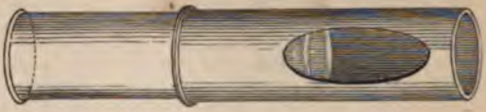
Some time ago, I caused a speculum to be made of metal, but instead of an air cushion, I had the top of the inner end turned over, so as to avoid the contact of an edge with the orifice of the vagina, and I found it to answer very well.



Mr. Ferguson has greatly improved the cylindrical glass speculum, by covering it externally with a brilliant metallic coating, and this again with a thin layer of india rubber. The reflecting power internally is much increased, and the instrument is much strengthened; so that there is but little danger of its breaking, which has happened with the plain glass speculum.

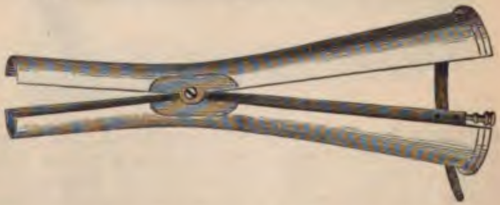


Dr. Protheroe Smith has invented a speculum by which a visual and digital examination can be made at the same time. It consists of two cylinders, the outer of metal, and the inner of glass: in the former of these there is a fenestrum. When the instrument is introduced, the inner speculum is partially withdrawn, and the finger passed into the vagina posteriorly, and through the fenestrum can reach the cervix uteri.

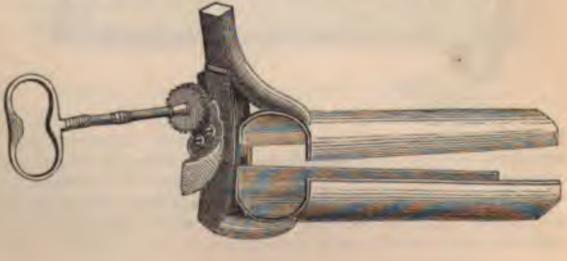


The plain cylindrical specula are the best when the os uteri are to be scarified, as the blood escapes through them at once. In order to facilitate the application of leeches, an obturator is used, fitting tight, like a piston, but pierced, so as to allow of the escape of air. With such an instrument, it is easy to push up the leeches to the os uteri, and by leaving it in the cylinder, to prevent their escape.

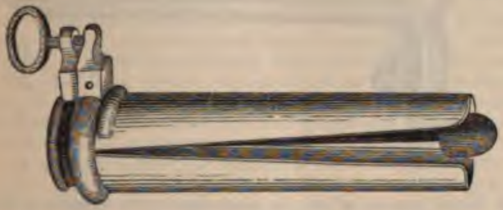
The bivalve specimen of M. Jobert of Paris, consists of two half cylinders, joined together by a hinge on one side, about one-third of the length from the minor end of the instrument. When introduced, as the hinge passes into the vagina, the pressure of the orifice above the hinge expands the minor extremity.



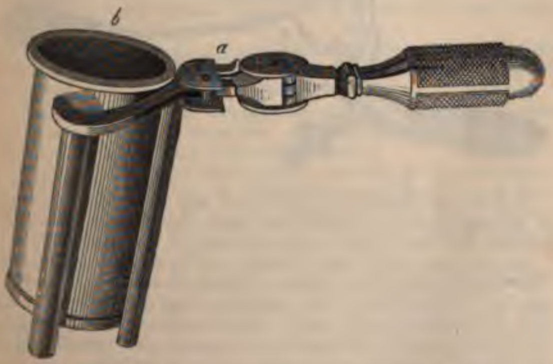
Madame Boivin's speculum consists of two half cylinders joined at their outer extremities to traverse limbs of brass, the one hollow and the other solid. The solid part passes into the hollow limb, and is moved backwards and forwards (thus opening or closing the blades of the speculum) by a small wheel with teeth, turned by a key.



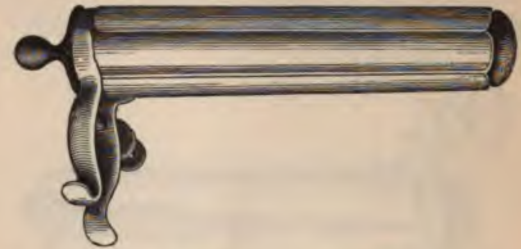
Mr. Coxeter's bivalve speculum is a very useful one; the two blades are separated by a screw at the outer end, by which the expansion required can be regulated and maintained.



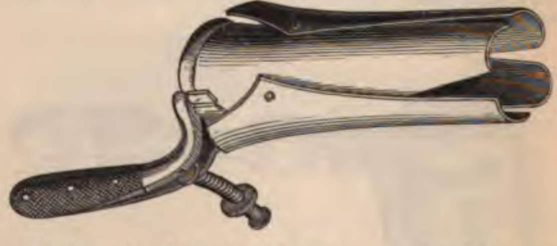
The speculum made by Mr. Weiss consists of two parts, a dilator and a cylinder. The dilator has three blades, which are expanded by a peculiar arrangement at the joint of the handle (*a*), and when by this means the vagina is sufficiently dilated, the speculum (*b*) is introduced between the blades



I procured some time ago a three-headed speculum; but who invented it I do not know; the third blade folds over the others when the instrument is closed, but when the bivalves are expanded, the third blade covers the space between them, and forms a complete cylinder.



M. Ricord uses one of simpler construction. It consists of two or four semi-cylindrical blades, joined at a short distance from the outer extremity. When closed they form a cone, but by pressing the handles together, after the instrument is introduced, the inner extremities are expanded.



It is the most useful one, I think, as it may be adapted to a vagina of any calibre, and by removing one blade, the operator is enabled to ascertain the state of the mucous membrane of the vagina.

Any of these specula may be safely used by a skilful hand. It is absolutely necessary to have them of different diameters and of different lengths. I prefer Ricord's four-bladed speculum for minute investigation, or Coxeter's bivalve; but, for the application of caustic or leeches, or even for subsequent examinations, Ferguson's glass speculum, or the three-bladed cylindrical speculum, is as good, if not better.

When about to examine with the speculum, we ought always to be provided with a long pair of dressing forceps and lint, in order to remove any mucus or blood which may obscure the surface of the cervix uteri.

29. The mode of using the speculum is as follows: the patient may be placed on her hands and knees; or on her side or back, with the

hips at the edge of the bed; and the labia being carefully separated, the point of the instrument, well oiled, is to be introduced into the orifice of the vagina pressing towards the perineum, and directed backward and upward. When it has penetrated four or five inches into the vagina, the blades may be separated, the obturator (if there be one) withdrawn, and light thrown into the outer end of the instrument, unless the patient be placed opposite a window. The parts at the inner end will then be distinctly visible, and their condition can be ascertained. If the cervix be not exactly at the inner end of the speculum, it must be withdrawn a little, and passed up again in a somewhat different direction, until the object be attained. When the examination is ended, care must be taken not to injure the vagina, by the too sudden withdrawal of the instrument when widely expanded: we must also take care not to include hair or mucous membrane in the joints of the instrument.

30. The *treatment* of diseases of the female generative organs may be divided into general and local. The former remedies act through the constitution, and the latter are applied topically.

The general remedies include, of course, all those which, by improving the general health, act favorably upon the local affection; but especially some which seem to have a more direct action upon the uterus and ovaries. Thus iron, strychnia, savin, &c. act as emmenagogues, whilst others diminish or suppress excessive discharges, as ergot, indian hemp, copaiba, lead, oxide of silver, gallic acid, tannin, &c.

Calomel and opium exert a remarkable influence over uterine inflammation; and calomel alone, in small doses, will occasionally stimulate the absorbents, so as to remove effusions.

Hydriodate of potash certainly exerts a certain degree of power in various affections of the uterus. Dr. Ashwell states that it diminishes the volume of hard tumors in the uterus.

Arsenic has been tried with success in menorrhagia and cancer uteri, by Mr. Hunt;* although Dr. Fothergill states that "in any acute affections of the uterus it must be pernicious, and as to its exhibition in schirrhous or chronic diseases of this viscera, I conclude, from the experience I have had, that it affords no benefit."†

31. But, although we have few general remedies of direct power, we are more amply supplied with the means of local treatment.

Cupping the sacrum, or leeches to the upper and inner part of the thighs, to the vulva, anus, or over the pubis, exert a decided control over uterine disease. And for some years blood has been abstracted from the cervix uteri, with the assistance of the speculum, either by leeches, scarification, or cupping. This has been found of great value in dysmenorrhœa, congestion of the cervix, inflammation, erosion, or simple ulceration of the cervix uteri, irritable uterus, &c.

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* Med. Chir. Trans. vol. xxi.

† Mem. of Med. Society of London, vol. v. p. 28.

By the speculum, also, caustics or even the actual cautery may be applied to the part affected, without injuring the vagina. I frequently thus apply nitric acid, butter of antimony, nitrate of silver, caustic tincture of iodine, &c. in congestion, inflammation, excoriation, and ulceration of the cervix uteri, or to fungous growths, with great benefit. For the purpose of applying fluid caustics I use a small roll of lint, held in a long pair of dressing forceps; and, after I have touched the part, I remove all the superfluous portion by a dossil of lint in another pair of forceps. In some cases the latter may be dipped in oil or vinegar.

In diseases of the vagina and cervix uteri, injections may be thrown up by means of a common syringe, or, which is far more convenient, the one invented by Dr. Evory Kennedy or Mr. Higginson; or conveyed to the part by means of a curved glass tube, as recommended by Dr. Montgomery, or the appendix cœci of a sheep, as practised by Dr. Cliet.*

I have been for some time satisfied that the profession is scarcely aware of the value of injections of cold water, thrown up in a continued stream, a cold douche in fact, in diseases of the vagina and cervix uteri. In many slight cases and in some obstinate cases, I have obtained more satisfactory results by this remedy than by any other; and as it can generally be done by the patient herself, it is far pleasanter for her, and avoids the inconveniences of caustic or irritating applications by the speculum. It is the best local tonic I know in cases of frequent abortion or easily-provoked menorrhagia. The first time, the chill may be taken off, but as soon as convenient the water should be used cold, once or twice a day for 15 or 20 minutes, and continued for a considerable period. I am happy to see a confirmation of these views in a valuable paper by M. Fleury and Dr. Faure.†

Solutions of alum, sulphate of copper or zinc, acetate of lead, nitrate of silver, &c. or astringent decoctions, or some of these combined, may thus be directly applied to the part affected: after using them for several times it is advisable, however, to wash out the vagina with tepid or cold water, as otherwise the particles remaining may occasion troublesome irritation.‡

In uterine hæmorrhages, when the application of cold is desirable, and we fear to use vaginal injections, the impression of cold may be completely and safely produced by enemeta of cold water.

Injections of various fluids into the uterine cavity have been recommended, and have been followed by benefit in some cases, and by very serious and even fatal results in others. If used at all, which is very questionable, a very small quantity of fluid should be employed, and as little force as possible in injecting it.

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* Jour. des Connoiss. Med. Med. Chir. Review, July, 1839, p. 222.

† Archives Gen. de Med. May, 1853, p. 551.

‡ Mr. M. Cooke, Lancet, May 11, 1850.

32. A very valuable mode of applying remedies to the vagina, and in the neighbourhood of the uterus and ovaries, is by means of medicated pessaries. In one form or other this is a very old practice, although it seems strangely to have slipped out of use for some time past, until Professor Simpson attracted the attention of the profession to the value of the combination of certain remedies with lard and wax, so as to form small balls for insertion into the vagina. His formulæ are as follows:*

Zinc Pessaries.

℞. Zinci Oxydi, gr. xv.
Ceræ Albæ, gr. xv.
Axungiæ, ʒiss. M. f. Pess.

Lead Pessaries.

℞. Plumbi Acetat. gr. viiss.
Ceræ Albæ, gr. xxii.
Axungiæ, ʒiss. M. f. Pess.

Mercurial Pessaries.

℞. Ung. Hydrarg. fut ʒss.
Ceræ flavæ, ʒss.
Axungiæ, ʒi. M. f. Pess.

Iodide of Lead Pessaries.

℞. Plumbi Iodidi, gr. v.
Ceræ flavæ, ʒss.
Axungiæ, gr. lxx. M. f. Pess.

Tannin Pessaries.

℞. Tanninæ, gr. x.
Ceræ Albæ, gr. xxv.
Axungiæ, ʒiss. M. f. Pess.

Belladonna Pessaries.

℞. Extr. Belladonnæ, gr. x.
Ceræ flavæ, gr. xxiv.
Axungiæ, ʒiss. M. f. Pess.

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* Edinb. Monthly Journal, June, 1848.

In addition to these, which I have used with benefit, I have latterly prescribed an

Opium Pessary.

℞. Pulv. Opii, gr. i. to gr. iii.
Ceræ Alb. ℈i.
Axungiæ, ℥iss. M. f. Pess.

and I have also combined opium with tannin, iodine, hydriodate of potash, &c.

The pessary should not be too small, lest it fall out of the vagina; and it may be made of any shape and size.

Astringent and other medicines may also be enclosed in a finger-like bag of coarse muslin, and first being dipped in water, may be introduced and left in the vagina for a time with great benefit.

I need do no more than allude to the various mechanical contrivances for the relief of disturbances of position and displacements of the uterus, of which I shall treat in the proper place.

The external use of cold water is highly beneficial: a daily use of the "*bidet*" should be recommended to all married women, and especially during pregnancy. I have frequently found the pain and weakness of the back, so often complained of, completely removed by this simple practice. It has also considerable power in partial descent of the uterus, by restoring the elasticity of the vagina.

Counter-irritation to the sacrum is another valuable remedy. It may readily be affected by blisters or moxas. The blistered surface may be dressed with simple or medicated ointment.

Anodyne plasters are also of use when applied to the sacrum, in neuralgic affections of the uterus.

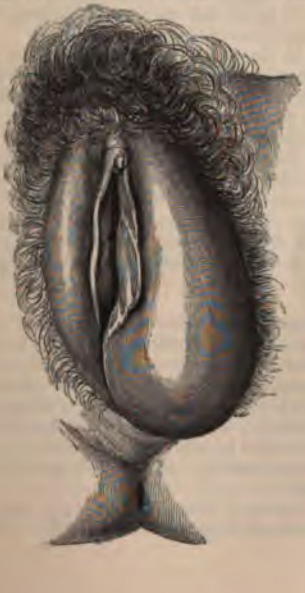
PART I.

DISEASES OF THE EXTERNAL ORGANS OF GENERATION.

CHAPTER I.

DISEASES OF THE LABIA PUDENDI.

33. I. Phlegmonous inflammation.—This disease consists ordinarily in inflammation of the skin and subcutaneous tissues. It may attack females at any age, according to the special cause, and it occa-



sions very severe suffering. It may occupy either labium or both labia.* Very rarely we see the same form of disease attacking the mons veneris, as in a case recorded by Dr. Bethune, of a mulatto girl of scrofulous habit in whom it occurred without any special cause, in the course of another disease.† Dr. Parkman also mentions two similar cases, in which the pus discharged was very fœtid.

M. Huguier, in a valuable memoir, has shown that in many, perhaps in most cases, these abscesses of the labium have their primary seat in the vulvo-vaginal gland: either the duct is obstructed, and the accumulation of secretion gives rise to inflammation, or inflammation spreads up along the duct to the gland; and on looking back upon the cases that have come under my care, I am inclined to agree with him. Certainly in most cases the central hard tumour is perceived before there is the slightest superficial inflammation.

Causes.—In many it is the result of an accident, a blow, a fall, forcible intercourse; in short, violence of any kind may give rise to it, or it may occasionally, as I have seen, be the local development of a general disposition to inflammatory action. Dr. Davis relates a case where the patient, reaching a bandbox from a height, fell astride on the back of a chair: phlegmonous inflammation of the labium and abscess followed. It burst, and the patient recovered.* I have known more than one such case.

According to M. Huguier, it may result from first intercourse, from too frequent connexion, and from masturbation, or it may be an extension of inflammation from the vulva. M. Salmon believes it to arise from gonorrhœal poison spreading along the duct. It chiefly occurs in persons of a lymphatic temperament.

Occasionally it occurs during pregnancy, without any assignable cause; and after delivery, from the pressure of the child's head in its passage through the lower outlet.

34. *Symptoms.*—The patient's attention is first attracted by uneasiness in walking or sitting, in those cases where there is no special cause; and then follow heat, swelling, redness, and throbbing pain in the part,

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* In our examination of diseases of the external organs, we should always bear in mind the congenital malformations to which these parts are subject. The labia and nymphæ may be of very different sizes, and one side is almost always larger than its opposite. The clitoris may be unusually prominent (in infants it is always proportionately more so than in adults), the orifice of the vagina may be smaller than usual; it may be closed by adhesion of its sides, or by the hymen; or it may be altogether wanting. In the latter case, the vagina itself is frequently absent.

† American Journal of Medical Science, July, 1851, p. 86.

‡ Obstetric Med. vol. i, p. 42.

extending to the groin, where it sometimes excites sympathetic bubo in the lower row of inguinal glands, and down the thigh. The pain is greatly aggravated by motion, and the upright or sitting position: indeed, it is generally by the distress thus occasioned that the patient's attention is first attracted.

On making an examination, the mons veneris or one or both labia are found enlarged, a circumscribed hardness is felt, the part is exquisitely tender, and a blush of inflammation deepens the natural colour.

When it is primarily an affection of the vulvo-vaginal gland, this small body will be found hard, enlarged, and painful, but the labia generally free from inflammation, and the skin natural in appearance; though, as the disease advances, these parts become involved.

If the progress be not checked, and but little time is allowed for this purpose, matter is rapidly formed, the tumor becomes softer, especially at some one part, generally of the inner surface, and if let alone will open spontaneously.

The opening, however does not always take place at the surface of the tumor; but, from the peculiar texture of the part, the matter is apt to burrow, and escape at some distant point. In the cases related by Boivin and Dugès it opened into the rectum.

Diagnosis.—In general the nature of the disease is so obvious, that there is scarcely a possibility of a mistake. I never saw a case in which I had the least doubt.

It differs, I. from *hernia*, by the greater hardness of the swelling, and its more circumscribed character. Moreover, it is not increased by coughing, and is not reducible.

II. From *œdema of the labia*, by the limitation of the tumor, its occurring in one labium only, the severe pain, and the redness of the skin. In œdema, on the contrary, the swelling is diffused, occupying both labia, it is soft, pitting on pressure, nearly colourless, and comes on gradually.

III. From *encysted tumor of the labium*, which it resembles the most because of the circumscribed character of the swelling; by the acute course of the disease, by the severe pain, the hardness, the tenderness and the redness of the skin.

35. *Treatment.*—The treatment is simple, and generally successful. If we are called to the patient at an early period of the disease, it is said that we may possibly be able to arrest its progress by venesection, but this can be rarely necessary, or by the application of leeches to the part in number proportioned to the violence and extent of the attack, followed by emollient poultices and a brisk purgative. Dr. Dewees prefers the *ung. hyd. fort. sine terebinth.* to poultices, especially with young subjects. At a later period, if the inflammation seems inclined to subside, it is very useful; but I should have but little faith in it at the commencement.

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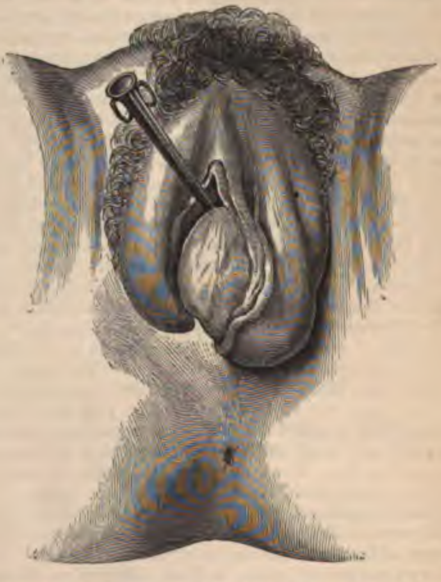
If suppuration have already taken place, the leeches may be omitted, showed that it belonged to the class of fibro-cellular tumors; it presented a uniform appearance throughout, and was very vascular: it was of rather loose texture, but it did not contain any cavity."*



37. *Symptoms.*—These are few and so slightly marked, at an early period, that the disease escapes notice until the patient's attention is attracted to the part by some other circumstance, or until the tumor attains a considerable size; unless, indeed, which is not common, it be attacked by inflammation.

After the patient is aware of its presence, there is a sense of inconvenience, generally aggravated by movement, if the tumor have attained any size; sometimes, as in Dr. M'Donnell's case, a difficulty in sitting in the usual position, or in closing the knees; but very rarely any pain. In Dr. Fleming's case, there was considerable irritability of the bladder. On examination, we find a tumor imbedded in the labium (generally the left, I think,) very different in its feel from a phlegmonoid tumor, less identified with the surrounding parts, not tender on pressure, nor discoloured. The skin is generally moveable over the tumor, which generally extends some way inwards up the vagina. No shock is communicated by coughing; no rumbling observed in the tumor, which cannot be moved; and percussion yields a dull sound. To the touch it feels as though full of fluid.

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* Dublin Journal, vol. xvii. p. 225.

When the tumor is opened, it may contain yellow serum, unhealthy sanies, glairy fluid,* or dark coloured puriform matter; or it may be of a solid texture, fibro-cellular, fatty or gelatinous. The cavity is lined by a distinct secreting membrane.†

These tumors may continue many years, increasing very slowly, and giving little trouble, or they may augment in volume more rapidly, and in some rare cases ulceration has taken place in them, and a very unpleasant sore been formed.

Causes.—It is impossible to assign any special cause for the development of these tumors. Whether they do arise in consequence of injury, as patients sometimes think, it is hard to decide. Nor do I think that they are favoured by one kind of constitution more than another. They seem more frequent towards the decline of uterine activity.

They have been regarded by some as symptomatic of more important disease of the uterus, but I am rather inclined to doubt this.

Diagnosis.—I. *From phlegmon of the labia.* There will seldom be much difficulty in this; for the slow growth of encysted tumors, the absence of pain and tenderness, the free way in which the skin moves over the tumor, its natural colour, &c. are very unlike the pain, redness, throbbing, and hardness of phlegmon.

II. *From œdema of the labia* it is distinguished by its circumscribed character, its being confined to one labium, and its slow growth.

III. *From vaginal or pudendal hernia*, with which, as Dr. Ashwell observes, there is sometimes a great resemblance. But we find no variation in the tumor according to the state of the bowels, no rumbling, no shock on coughing if the tumor be raised, and it can never be returned into the abdomen. If, in addition, we find that the tumor has existed long, and has gradually arrived at its present size, we shall seldom, I think, have much difficulty.‡

38. *Treatment.*—Several methods of treatment have been in use, which in different cases have proved successful.§

1. Opening the tumor, evacuating its contents, and bringing the walls of the cyst into apposition. The difficulty here arises from the

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* Davis's Obstetric Medicine, vol. i. p. 57; Lancet, Feb. 13, 1841.

† Boivin and Dugès, Diseases of the Uterus, &c. p. 543.

‡ Sir A. Cooper on Hernia, part ii. p. 62.

§ Boivin and Dugès, Dis. of the Uterus, p. 541; Blundell on Diseases of Women, p. 281; Medical Gazette, March 16, 1839.

character of the lining membrane: instead of adhering to each other, the walls continue to secrete fluid. I have not myself succeeded in this way.

2. Making a longer incision, and filling the sac with charpie: if by this means adhesive inflammation be excited, we shall succeed; but it may and often does fail.

3. Making an incision, so as to empty the cyst, and then applying caustic to the lining membrane. This is the method preferred by Dr. M'Donnell, and a very good one it is—perhaps one of the best. He mentions that he has rarely found it necessary to repeat the caustic, and if it were always so we should have no difficulty; but I have not always found it so easy. In a case I had lately, very much resembling Dr. M'Donnell's, Dr. Cusack and I tried the first and second plans without success; we then applied lunar caustic, but, even though it was repeated many times, it failed to destroy the membrane of the cyst, or to produce adhesion; and we had ultimately to lay open the entire cyst, and prevent the wound healing. In this way the membrane ceased secreting, and the sac gradually contracted, but the left labium remains divided still.

4. By the insertion of a seton through the tumor, so as to produce suppuration, and subsequent obliteration of the cyst.

5. The tumor may be dissected out. No doubt this is the most effectual method, but it is by far the most painful and difficult; neither is it altogether without risk.

Upon the whole, I should say, that if the tumor be small and do not extend up the side of the vagina, excision offers a greater certainty of cure; but that, if it be large, it will be better to lay it open, and try the charpie or caustic.

39. III. Oozing tumor of the labia.

This name has been given by Sir C. M. Clarke to a peculiar kind of tumor, first described by himself, arising from or growing upon one or both labia, and thence sometimes extending to the mons veneris. It is of rare occurrence, and most frequently attacks fat middle aged women who have been weakened by bearing children or by any other cause.

Symptoms.—The patient's attention is first attracted by a degree of heat and irritation of the labium, especially after exercise. At first there is but little swelling; but, after a time, the part enlarges, and there is a troublesome itching, and a profuse watery discharge, mixed with blood. Occasionally the discharge is acrid, and excoriates the neighbouring parts.

On *examination*, we find the labium enlarged by this flat kind of tumor. Its texture is firm, and it is lobulated or divided by fissures: its colour may be that of the surrounding integuments, or somewhat darker. It is not œdematous, although the neighbouring parts sometimes become so, and it is seldom raised more than from one-eighth to one-third of an inch above the level of the skin.

From its surface, and especially from the interstices, a pellucid watery fluid is distilled with considerable rapidity, varying according to the constitution of the patient and the weather; being much more profuse when the weather is damp and the constitution debilitated. It gives a firm feel to the touch, and is not very sensitive.

Mr. Rump states that when a section is examined it exhibits hypertrophy of the integument and of the areolar structure of the labium.* It is probably the result of low chronic inflammation, and is certainly not cancerous.

Diagnosis.—1. It might, on a superficial glance, be mistaken for warty tumors, or, if unusually large, for an encysted growth; but a little more attention will detect the characteristic differences.

2. Sir C. M. Clarke observes that "at first sight the complaint might be mistaken for that form of erisipelas denominated *shingles;* but, upon a more careful inspection, it will be found that the projecting parts are solid, and that they do not, as in the disease called shingles, contain a fluid."†

3. We must also be careful not to confound excoriation of the labia with this oozing tumor.

40. *Treatment.*—There appears to be little chance of a radical cure of the disease, except by excision of the labium, which Sir C. M. Clarke performed with success in one case. In the more recent case by Mr. Rump, which was also successful, he thus describes the operation:—"The patient having been secured in the lithotomy position, the tumor was drawn forward from the pubes, and its base transfixed near the clitoris, and on a level with the nymphæ, with a straight bistoury, which was then carried downwards to the fourchette, and brought out. The knife was reapplied, and directed upwards towards the mons. By this means the labium was speedily removed. The round ligament was laid bare, and three small arterial branches bled, but did not require a ligature. The edges of the long elliptical wound were brought together by interrupted sutures, and cold water dressing applied."

As palliative remedies, which may be employed to obtain temporary relief until the patient's general condition is improved, astringent powders, such as starch and sulphate of copper, finely powdered and mixed, may be sprinkled upon the tumor, or lotions of spirits of wine and water, port wine and water, decoctions of oak bark, green tea, &c. which appear to me much preferable to the powders. Rest, in the horizontal position as much as possible, will afford relief, as the discharge and local distress is increased by standing long or walking.

But very great benefit will be derived from attention to the general health; and by improving this, we shall best prepare the patient for a radical cure. Good, generous diet, with wine or malt liquor, should be allowed; fresh air, especially the sea breezes, with mineral or vegetable tonics, are also valuable. Mr. Rump's patient appears to have derived benefit from the iodide of iron (gr. ii. ter. in die) in combination with vegetable bitters.

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* Provincial Medical and Surgical Journal, Sept. 4, 1850.

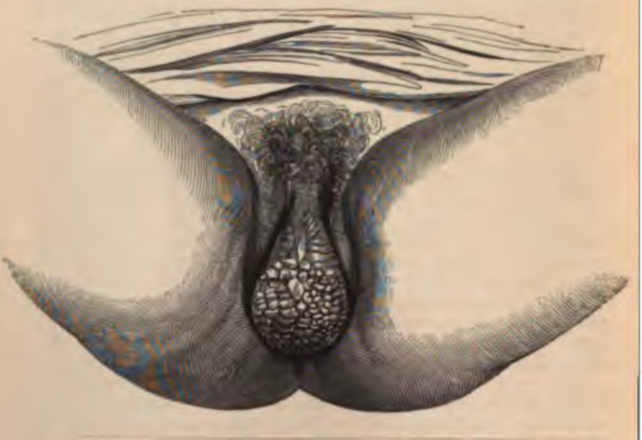
† Diseases of Females, vol. ii. p. 129.

I do not know that iodine, either locally or generally, has had a fair trial; but I should be inclined to recommend its use from analogy.

CHAPTER II.

TUMORS OF THE VULVA.

41. I. WARTY TUMORS OF THE VULVA.—These occur both singly and in clusters, generally suspended by a pedicle from some part of the external genitals. Their size varies very much, generally from that of a pea to that of a turkey egg; but occasionally they are very much larger.[*] M. Dugès mentions his having excised one three inches in diameter.[†] My friend, Mr. Bryden of Manchester, has favoured me with the following notes of a case still larger: "Rose Blanch, nupta,



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[*] I am indebted to the kindness of Dr. M'Clintock for the accompanying drawing.

[†] Boivin and Dugès, Diseases of the Uterus, &c. p. 541.

æt. about 30, has had one child; states that about two years ago she perceived a tumor, about the size of a walnut, occupying the situation of the right labium, which had gradually increased to its present size: it is an irregularly shaped tuberculated tumor: something of the hour-glass shape, engaging the nymphæ, the clitoris, and the labia; it is much larger at the left side than at the right; it has a firm grisly pedicle; the uterus is free from disease. She never had any sore, syphilitic or otherwise, but has for some years since been affected with leucorrhœa; catamenia irregular. She never felt any inconvenience from the tumor until a week since, when it began to ulcerate and bleed, although its weight is great, viz. 1lb. 4oz. It has that horrid smell so characteristic of fungoid disease. She has not been able to sleep from excessive pain since it began to ulcerate; no appetite; thirst; stomach sick to nausea, and even vomiting of a nasty greenish fluid of a bitter taste. Tongue covered with a white slime; pulse regular. The tumor is of an hour-glass shape, 7½ inches in length; its transverse circumference is, at three points, 10, 7½, and 9 inches."

I may also quote the following case, by Dr. Wright of Edenton, America:* "Jan. 17, 1839, I was called a few miles into the country to visit a negro girl, about 16 years of age, who was represented to be in a very perilous condition. On my arrival, I was told by the mother of the girl, that her womb had fallen from her, and was then hanging by a chord, several inches from the os externum. On examination, what had been mistaken for the womb was ascertained to be a polypus. The chord or pedicle by which it was suspended was about two inches in length, half an inch in diameter, and round, except at the base or root, where it was flat, probably an inch in width. The tumor was spherical, and resembled very much an Irish potato before the peel is removed, having places corresponding in appearance with what are called eyes in the potato, and produced, no doubt, by the rupture and drying up of small vesicles on the surface, some of which still remained unbroken. On removing the tumor, which was done by a few cuts with the scalpel, but slight hemorrhage occurred, not sufficient to render a ligature necessary; nor was the operation productive of much pain. The tumor, after removal, was as large as an orange, and weighed seven ounces. It was quite translucent, and, being cut into, presented a cellular appearance, the cells being filled with a glairy fluid like white of egg. I learned, on enquiry, that the tumor had fallen from the vagina about ten days previously, while she was at work in the field, and that she had continued to go about as usual for several days, with it suspended by the pedicle; the parts becoming at length exquisitely tender and painful, she was compelled to resume the horizontal position, and to reveal her situation. Her general health had been very good, and the only inconvenience experienced was a slight pain when her legs were pressed tightly together; and this had been observed only about seven or eight weeks, so that the tumor had probably not been much longer in attaining its growth."

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* Philadelphia Med. Examiner, March 16, 1839.

I have recently seen a case in which a single tumor, the size of a hen's egg grew by a pedicle, more than an inch long, from the upper part of the right labium; it occurred in an unmarried female of about twenty years of age.

Although these excrescences very generally commence in the external labia, yet they are not necessarily confined to these parts, but may extend to the vestibulum. Through the kindness of Dr. Wilmot, I saw a case in which the entire external organs was one mass of warts, covering and blocking up the vulva, and this in a child not more than ten years old.

Dr. Ashwell mentions them as springing from the nymphæ, "beginning as small fungating, highly injected bodies, several of which coalesce and sprout out rapidly. Sometimes they cluster around the urethra, or are attached to the vestibule or clitoris. This form of warty growth is of soft structure, readily bleeding, and attended frequently with exquisite sensibility. It excites a good deal of leucorrhœa, and a fœtid discharge accompanies it."*

Symptoms.—As a general rule the patient seldom complains of either pain or tenderness, at least in the early stages of the disease, unless the part be attacked by inflammation, or be excoriated by an acrid discharge. There is almost always some discharge; and if this be not removed by ablution, it becomes a source of irritation.

When the tumors become large, there is more or less inconvenience in walking or sitting down, or in any position which involves pressure or friction.

On examination the nature of the disease is at once evident. Excrescences, varying in number and size, are found growing from one or both labia or the vulva, of the same colour as the parts from which they grow.

Internally they consist sometimes of small cysts filled with a thin serous fluid, or purulent matter, surrounded by condensed cellular tissue; or, perhaps more frequently they are solid, and consist of the skin, cellular membrane, and sebacious glands in a state of hypertrophy.

Now and then we observe suppuration taking place in them, and if they do not heal promptly, they are apt to degenerate into unhealthy sores.

Causes.—In many cases they are of undoubted venereal origin, and sometimes arise from the seat of former chancres; but we also meet them independently of any taint whatever.

42. *Treatment.*—Relief is of course easily obtained for a time by excision: but these tumors are very liable to be reproduced.

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* Diseases of Women, 709.

They may be removed by the knife, scissors, or ligature. Hemorrhage occasionally occurs when the former are used; but may be restrained by the application of styptics, caustics, or the cautery.

It is advisable also, at least I have always succeeded better by so doing, to apply strong caustics to the root after the wart has been removed, and to repeat the application after a day or two. In few cases only will escharotics succeed without the previous removal of the tumors.

Dr. Dewees states that he has cured the disease by exposure to the air and powdering the excrescences with chalk. "It was truly remarkable," he says, "to see with what rapidity these parasite productions lost their vitality by depriving them of moisture."*

Should there be any suspicion of syphilis, it will be necessary to give a mild course of mercury, and it may be useful to apply mercurial ointment to the warts. The liberal use of "black wash" will generally restrain the discharge.

Quietness and rest are necessary, especially after the operation; good diet may be allowed, and the bowels should be kept free.

43. II. FATTY AND FIBRO-CELLULAR TUMORS OF THE VULVA.—I do not think that these morbid growths are common in this situation, at least only few are recorded. Nor are they of serious importance: they occasion but little inconvenience beyond a slight sense of fulness, and a consciousness of something unusual. I may remark, however, that to some nervous women, this *consciousness* of something wrong (however trifling) with these organs, and the direction of the attention to it,† is sometimes a source of distress and melancholy.

The tumor may form in the nymphæ or in any part of the vulva, and so long as it is small it is unnoticed: it gradually increases; and either accident or an attack of inflammation makes the patient aware of its presence.

I am not aware that they are peculiar, or limited to any age or condition: the case I shall relate presently, occurred in a young unmarried lady. So far as I know they do not occasion inconvenience in walking or sitting; but of course if they are attacked by inflammation, much suffering will result.

It will be extremely difficult to distinguish fatty from encysted tumors, except by the exploring needle, which in such cases should be used.

The following case came recently under my own care: the subject was a young lady, aged about 24, who had noticed for some years a tumor situated within the vulva. She had never suffered pain from it, but the consciousness of its presence was a trouble to her. She thought that the tumor occasionally felt longer, and that it once diminished after the application of some ointment, but it shortly resumed its former size. It has increased though very slowly.

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* Diseases of Females, p. 25.

† Holland on Mental Physiology, p. 13 et seq.

The lady's health was good, and the menstrual function regularly and properly performed.

On separating the labia, I found a tumor about an inch in length and half an inch in diameter, lying immediately below the orifice of the urethra, and extending a little within the orifice of the vagina. I cannot say that it grew from a stalk, but its base was much less extensive than the tumor itself. To the touch the tumor was soft, elastic, and gave the feeling of fluid contained in a pretty thick sac: I thought indeed that it was an encysted tumor. I found that I could isolate it, and that its base of attachment was little more than the mucous membrane.

Instead therefore of opening it, or running a seton through it, I determined to attempt its extirpation, and, with the assistance of my friend Dr. Power, I succeeded completely without any difficulty. Some hemorrhage occurred at the time, but none subsequently, which was restrained by pressure and cold, and the patient in a few days was quite well: the base from which the tumor had grown being scarcely perceptible after the second day. The tumor when opened was found to consist solely of fat, intersected by cellular septa, and enclosed in a fibro-cellular capsule.

I have removed a similar one from the right nymphæ.

Through the kindness of my friend Dr. Fleming, I saw a case of enormous tumor in this region, of a more solid character, which, I may be allowed to quote because of its interest. The patient was a healthy unmarried girl, æt. 25. She attributed the tumor to a fall from a chair about six months previously. "Her principal local symptoms were pains in the loins, vesical irritation, latterly amounting to retention of urine, painful obstruction of the vagina, and difficulty in defæcation. The tumor occupied the left buttock, towards its back part, reaching to the posterior portion of the gluteus muscle, and extending in front along the left side of the anus and perineum, to the lower part of the corresponding labium. The integuments covering it were perfectly natural in colour and consistence, and moved freely over the tumor; although its projection was considerable, yet they were not tense. A few large veins traversed the surface, and perhaps some capillary congestion might be occasionally present. The surface was uniformly smooth; and there was, with much elasticity, a most deceptive sense of fluctuation. Both vagina and rectum were encroached on by its inward growth; and when it was firmly grasped by the hand, a fibrous solidity was communicated to the fingers. By slight traction it was evident that the tumor had strong fibrous attachments along the ramus of the ischium and pubis. The finger could not reach above its vaginal and rectal relations; neither could the most minute examination detect any abnormal condition along the spine, or in the iliac or sacral regions above the pelvis." The tumor was very skilfully removed by Dr. Fleming. "Its connections were very deep, and its attachments by strong ligamentous bands, very firm to the bones of the pelvis, particularly to the pubis and ischium, a prolongation of it being traceable behind the symphysis, and along the side of the bladder." "The weight of the fleshy mass, immediately after removal was three pounds: its form was most irregular: it was lobulated and banded across its surface and margins by numerous broad fibrous expansions, differing in breadth and tension, so as to give it a most remarkable resemblance to folds of intestine, with mesentery attached to them. The color of the greater portion of this tumor was a sort of ashen grey, with a pinkish tint, other portions being dark and congested, so as to render the above resemblance still more deceptive. It was smooth and glossy, and fibrous cords passed from its surfaces and edges, like so many tentacula. Around them were adherent portions of adipose tissue, and in many parts of the lobulated surfaces small masses of the same structure were visible, simulating much the appendices epiploicæ of the large intestines." "In its largest axis it measured beyond thirteen inches, and in different other portions, six, eight and ten." "There was much uniformity in the texture throughout, with the exception of greater compactness in some portions, where it wás tough and unyielding. No fat was traceable throughout it." Dr. Lyons examined the structure with the microscope, and he reported "that it was composed of a very fine kind of fibres, closely matted together. Some were short, with a slight disposition to curl; others fine and straight throughout, but occasionally banded. There were, also, a few much elongated."*

The patient died on the fifth day after the operation, of peritonitis; but not from injury inflicted on that sac by the operation.

I am well aware that this case can hardly be called a tumor of the vulva, seeing that it was that and much more, but it is too rare and too important a case to be omitted, and it would not have been more accurately placed in any other chapter.

A case almost identical with the foregoing, was operated on in St. George's Hospital, with similar results; and it is mentioned that two such cases occurred to Sir B. Brodie and Mr. Keate, from which the patients recovered after operation.

The complete removal of these tumors by the knife, appears to me to be the only method of cure; and if there be any doubt of having extirpated the whole, strong caustics might be applied a day or two afterwards.

44. III. ENCYSTED TUMORS OF THE VULVA.—Occasionally we find encysted tumors in this situation containing fluid, but they cannot be

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* Dublin Hospital Gazette, Jan. 1, 1855, p. 359; Lancet, Sept. 8, 1855, p. 225.

very frequent, as they are rarely mentioned by authors. I was lately consulted about one by my friend Dr. Mac Swiney of this city, which possessed many points of interest. It had not been observed by the patient or nurse until Dr. Mac Swiney, on making an examination at an advanced period of labor, found a tumor at the upper part of the orifice, underneath the symphysis pubis, protruded before the head of the child. As no catheter could be passed on account of the pressure of the child's head upon the urethra, it was impossible to make sure that it was not the bladder prolapsed and protruded, and therefore Dr. Mac Swiney very properly hesitated to puncture it, although he had no doubt it contained a fluid. The labor was protracted for some hours, apparently, by this obstacle, but at length a living child was safely delivered, and the mother recovered well. On again making an examination, a pear-shaped tumor was found protruding through the orifice of the vagina, lying along the under surface of the urethra, from just below its orifice to near its insertion into the bladder. It was covered by the mucus membrane of the vagina, and evidently contained a fluid. Its length was at least two inches, and the diameter of its larger end one and a half.

From the height to which the slender extremity extended up the vagina, it was evident that to attempt its entire removal would be very difficult, and knowing from experience the difficulty of curing encysted tumors by merely opening them freely, we came to the determination of taking out so large a triangular strip, as would leave as little as possible of the sac remaining. This we did a month after the lady's confinement: we found the mass of the sac thick and strong, its contents a colourless, glairy fluid like the white of egg, and its cavity lined by a smooth shining membrane; but whether similar to that of other shut sacs, it is not easy to determine. The operation gave no pain, but a few drops of blood were lost, the sac was filled with dry lint, and in a week scarcely a trace remained to show that any operation had been performed.

The interest of this case consists not merely in the rarity of such tumors in this situation, but on the fact of its not having been discovered until labor had so far advanced, that it was impossible to ascertain the situation of the bladder with certainty. Could this have been done, the termination of labor would have been facilitated by puncturing the tumor. I think the result shows, also, that the plan of removing a large portion of such tumor, is preferable to the attempt at excision or merely puncturing the tumor.

CHAPTER III.

PRURITUS OF THE VULVA.

45. This very unpleasant complaint, although, strictly speaking, only a symptom, sometimes assumes such a distressing prominence, as to demand a distinct notice.

It may occur in women at any period of life, though it is comparatively rare before marriage or middle age. I have seen it in unmarried women; after delivery; and in old age.

46. *Symptoms.*—The patient experiences an intolerable itching of the vulva, with burning, prickling, tingling sensations, nearly intolerable. The suffering is intense, far worse than any pain, preventing rest, and almost driving the patient frantic. Notwithstanding the restraints of delicacy, it is almost impossible to resist the desire to rub the parts, wherever the patient may be; and yielding to such inclination, while it hardly affords even temporary relief, always aggravates the complaint.

In some cases, the itching is not confined to the vulva, but extends up the vaginal canal, as far as the cervix uteri, causing intolerable distress, restlessness, loss of sleep, &c. I have observed this extension of the complaint most frequently following delivery.

In severe cases, when the parts are very tender, there is no sexual desire excited, but in other and slighter cases, where friction does not occasion distress, this is sometimes the case; and that which was at first adopted for the relief of the pruritus, may give rise to other sensations as imperious in their desire of gratification, and which increase by indulgence, so that the patient is reduced to a very melancholy condition; utterly unfit for society, she is injured by solitude, which leaves her to the uncontrolled dominion of her imagination; her mind, influenced by the excitement of the organs affected, is occupied with lascivious thoughts and impure desires, and her conduct (in defiance of herself, as a patient expressed it) towards the other sex shows the influence of the bodily disorder. In short, the attack may degenerate into nymphomania. I do not say that this termination is frequent; on the contrary, in a large majority of cases there is no such complication; but it does occur now and then, and I have known some melancholy instances. In general, we shall succeed in previously arresting the complaint.

When it occurs *during pregnancy*, it is not only distressing, but may even bring on a miscarriage or premature labour, as in the case related by Dr. Maslieurat-Lagemard;* and it appears that the ordinary treatment is less successful than usual. This may arise from the cause not having been detected, in illustration of which I may relate the following cases: "Mrs. ——, æt. 30, engaged me to attend her approaching confinement, and gave me the following history of herself. When about four months pregnant of her last child, she was attacked by the most intense and incessant itching of the vulva; she had no rest day or night; could scarcely ever sleep, but was obliged to walk up and down all night. Such was the amount of irritation that the patient was kept in a constant fever, and, from being a very sweet-tempered woman, had become so irritable and cross, that, as she said herself, "there was no living in the house with her." Every kind of local application to the vulva was tried by the physician who attended her, without the slightest benefit, and the itching continued unabated until delivery, after which it disappeared in a few days. It recommenced about the same period in the present pregnancy, and when I first saw her, she had endured two months of such incessant torture as had nearly driven her mad; she scarcely ever slept, was debarred from all society; could only walk out in the evening, and was in a state of perpetual fever, irritation, restlessness, and misery. Her temper had again become irascible, and she herself feared that her mind would give way. The itching was incessant and intolerable, and only relieved for a moment by warm bathing. On examination, I found the vulva in a perfect healthy condition, and I then proceeded with a speculum to investigate the state of the os uteri. I found the cervix greatly congested, and a superficial granular erosion around the edge of the os uteri. This I touched lightly with the nitrate of silver, and after a few moments I laid on a coating of honey and powdered opium (in the proportion of ʒss to ℥ss). The effect was really magical; the itching ceased after an hour or two, and only recurred at intervals; she slept well, and became tranquil. One more application so far cured her, that she said it was not worth while to repeat it. She continued in this state, till her confinement, since which she has quite recovered.

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* Gazette Medicale, 1848, p. 204.

I have lately seen a similar case. The itching came on at intervals, but was not so distressing. There was an irritating discharge, which produced excoriation on the husband. On examination I found no disease whatever of the vulva or vagina, but the cervix uteri was much congested, of a dark colour, and had in it a granular erosion. The lady was three months pregnant.

Dr. Dewees observed an aphthous state of the mucous membrane of the vulva, in some cases occurring during pregnancy. He thus describes one such case:* "A lady whose husband was more notorious for his gallantries than his domestic virtues, was attacked in the incipient stage of pregnancy with an intolerable itching in the pudendum, and even within the os externum, along the vagina. Suspecting she was infected by a venereal affection, we were sent for, and she giving such an account of her feelings as to make us think it might truly be the case, we proposed an examination of the parts, which was finally acceded to. Upon separating the labia, the whole face of the vulva, the os externum, and the vagina, as far as could be viewed, was covered with an incrustation of aphthæ. We assured our patient that her complaint was not as she had expected, but one we hoped we could quickly remove. We accordingly ordered a strong solution of borax in water, and requested her to wash herself four or five times a day with it, as well as to throw some of it up the vagina at the same time: she did so, and was perfectly well in twenty-four hours."

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* Compendious System of Midwifery, p. 123.

When the attack comes on *after delivery*, the distress is very great, and aggravated by the tenderness of the parts. I have, however, generally found it cease on the cessation of the lochial discharge, if not previously removed by treatment.

A very careful examination, both external and internal, should always be made. In some cases, there is no external appearance at all to indicate the cause of the complaint; in other cases, there are only the effects of the friction to which the parts have been exposed. I am satisfied that in most of these cases the speculum would reveal to us the true nature of the complaint.

In many cases, on the other hand, we may at once detect local irritation or disease, excoriation or eruptions, with swelling and redness of the parts.

It appears very probable that a female labouring under this disease may communicate something resembling it to the male. "We have known," says Dr. Dewees, "a complaint communicated to the male by intercourse with a woman labouring under pruritus: it was very similar to that which affected the female, in its general character; that is, there was great itching and swelling of the prepuce, the whole internal surface of which, together with the glans penis, was covered with an aphthous efflorescence."[*]

47. *Causes.*—The causes are very various, and not always very evident. The secretion of the sebaceous glands, which are very numerous in this situation, becomes a source of great irritation from its acrid character, when allowed to accumulate, and this especially in warm weather.

The itching may also be owing to a circumscribed inflammation of the vulva, or to an eruption of lichen, prurigo, or eczema,[†] and I have already quoted Dr. Dewees' case of aphthous inflammation.

Dr. Davis relates a case in which he thought it arose from a superabundance of hair on the genitals, and which he relieved by destroying the hair with quicklime and pomatum.*

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[*] Diseases of Females, p. 51.

[†] Dr. Tournie, L'Union Medicale, Jan. 16, 1851.

Dr. Blundell suggests that "though a good deal of pruritus is felt about the vulva, the real seat of the disease may be in the membranous lining of the womb itself;"† and we know that pruritus of the vulva often accompanies certain diseases of the uterus and bladder, especially those which occur in advanced life.

Again, itching of the vulva may arise from iritation of the rectum by constipation or worms.

Most of these causes may exist whether the patient be pregnant or not; but in the former case, in addition, we have the increased circulation in the uterine system, and the unusual activity, giving rise to this annoying affection, as well as the granular condition of the cervix I have already noticed.

After delivery, could we examine the uterus, I think it likely that we should there discern the explanation of the irritation in some cases; in others, it may fairly be attributed to the nature of the lochial discharge.

48. *Treatment.*—The treatment of this affection will be determined principally by the decision we come to as to whether it be symptomatic of deeper-seated disease or not, and also by the amount of irritation and by the constitution of the patient. In the former case, we shall do wisely merely to attempt to afford temporary relief by some of the more simple local applications. Permanent cure we can scarcely expect, independent of the primary disease, and a sudden arrest of the external symptoms might probably be at the expense of an aggravation of the internal and more important affection.

In the more simple cases, our first care should be to remove any of the causes which can be discovered. The parts should be gently and carefully washed, three or four times a day, with warm milk and water, and dried. If pediculi are present, they may be destroyed by astringent applications, such as turpentine, infusion of tobacco, &c. or by sprinkling the part with calomel, which in many cases affords relief to the itching. Should the irritation be considerable, and persist after this treatment, it may be advisable, in patients of a full habit, to take away 12 or 14 ounces of blood from the arm.

When the acute symptoms have subsided, our principal reliance must be upon local applications. Some practitioners prefer them in the form of ointment, others in the form of lotion. I have always found the latter preferable, from their greater cleanliness, and from their being less affected by heat. One of the most useful lotions I know is composed of a decoction of poppy heads, with acetate of lead, in the proportion of half a drachm of the latter to a pint of the former.

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* Obstetric Medicine, vol. i. p. 35.

† Diseases of Women, p. 276.

Certain astringents, as solution of alum, sulphate of zinc or copper, have been found useful. Simple iced water, or cold water, with small quantities of dilute sulphuric or nitric acid is a pleasant and useful application, although the latter cannot be used when the irritation is very great. Dr. Dewees found a solution of borax more efficacious than any other remedy, and Dr. Meigs confirms his experience. Dr. Meigs' formula is as follows: "Take of biborate of soda half an ounce, distilled rose water six ounces, sulphate of morphia six grains."[*] Mix, and apply the lotion frequently in the course of the day.

Dr. A. T. Thompson has employed hydrocyanic acid and water, and M. Carron du Villards, lime water, with great benefit.

Hydrocyanic in almond milk makes a very soothing lotion; and a lotion with one grain of corrosive sublimate to eight ounces of water, is highly recommended.[†]

Dr. Waller recommends a solution of the nitrate of silver[‡] (5 or 10 grains to the ounce), but Dr. Blundell found the relief thus obtained to be only temporary. He suggests the possibility of injections into the womb being beneficial.[§] I am not aware that this has been tried, and I think it would require great caution, as danger has sometimes resulted from such applications.

Creosote in water has recently been applied, and it is said with success.

Of the ointments which have been recommended, the most useful are the ung. plumb. acet.; the ung. hyd. nitr. dil.; and the ung. sulphuris. The strength at which they are to be employed will vary according to the amount of irritation; and previous to each fresh application, the parts should be carefully washed, lest the ointment become rancid, and aggravate instead of mitigating the disease.

Dr. Oldham has recommended prussic acid (ʒii) in oil (℥ii), which I have tried with benefit; although I prefer mixing the acid with cold cream in the same proportions. I have also tried, with some success, an ointment of extract of belladonna (ʒi) and cold cream (℥i).

Dr. Tournie's method is to use an ointment of calomel, in the proportion of four to six parts of calomel and thirty of lard, and a powder composed of four-fifths of starch and one of camphor. Having removed any crusts by poultices and fomentations, he applies friction twice a day with the ointment, and afterwards sprinkles the parts with the powder. This treatment appears particularly successful in eczema.[‖]

Various internal remedies have been tried: sometimes they succeed, but they often fail, unless when combined with external treatment.

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[*] Females and their Diseases, p. 78.

[†] Monthly Journal, April, 1851.

[‡] Denman's Introduction to Midwifery, p. 39.

[§] Diseases of Females, p. 74.

[‖] L'Union Medicale, Jan. 16, 1851.

Purgatives, diuretics, opium, alteratives, sarsaparilla, have all been praised. Large doses of sulphuric acid are said to be of use.* Drs. Dewees† and Ruan have had fair success with balsam of copaiba.

Any of these internal remedies may be tried. I have no great faith in them alone; but certainly benefit is derived from a dose or two of blue pill, followed by purgatives, and then some tonic, if the patient's constitution require it.

When there is no apparent external cause, when the itching extends up the vagina, and above all in the pruritus of pregnancy and old age, I would impress very strongly upon my readers the necessity of making a careful internal examination, both by the finger and speculum, and treating the disease, if any be discovered, at its origin. In such cases as the one I have described, the application of the solid nitrate of silver gives relief at once; or, if more suitable, we may use injections of nitrate of silver (gr. xx) and water (℥ii), or of astringents, or of warm water alone.

After delivery, we had better confine ourselves to injections of warm milk and water, until two or three weeks have elapsed, and the lochia have begun to decline; after which, if the pruritus continues, an internal examination should be made, and the treatment regulated accordingly.

In most cases I think we shall succeed by some one or other of these means; but it will often be necessary to try several, and now and then we meet with cases which are very obstinate, and a few which resist all our remedies.

The diet should be moderate, with a total abstinence from stimulants of every kind. The patient should resist the inclination to obtain relief from the itching by friction, and all means calculated to preserve or improve the general health should be employed.

CHAPTER IV.

INFLAMMATION OF THE MUCOUS MEMBRANE OF THE VULVA.

49. This disease may occur at any period of life; but which presents considerable differences, according to the age of the patient.

In *children*, it occupies the entire mucous membrane of the external genitals; sometimes, though rarely, spreading to the vagina, accompanied with a profuse milky or puriform discharge, with great smarting, but not severe pain; and ending generally in resolution, and rarely in ulceration or gangrene.* This is the *leucorrhœa infantilis* of authors; and although some regard it as a vaginal disease, I am satisfied, from many and careful examinations, that in the great majority of cases, it is confined to the vulva. I have seen it extend to the vagina, of course, as I have seen it accompanied by ulceration; but I am convinced that both are exceptions to the common rule. This is even proved by the fact that almost all cases may be cured by applications to the vulva only.

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* Dublin Journal, March, 1838.

† Diseases of Females, p. 49.

In *adults*, on the other hand, the inflammation is very often partial and circumscribed, with a slight colourless discharge, intense pain, and ending almost always in resolution, very rarely in ulceration, and never in gangrene, so far at least as my observations have extended.

It will be advisable to consider these two forms of disease separately.

50. I. *Infantile leucorrhœa* is observed at all periods after birth, in infants as well as in older children, and principally among the neglected and badly nursed children of the poor.

Causes.—These appear to be chiefly cold, destitution, mechanical injuries, irritating substances applied to the part, want of cleanliness, and sympathy with irritations of the rectum and large intestines. It has prevailed extensively during an epidemic catarrh of the mucous membranes; and in the examples given by Mr. Kinder Wood, of Manchester, and Boivin and Dugès, at the *Hôpital des Enfans malades*, at Paris, it constituted a very formidable epidemic. Of late years it has been more frequent in this city, and has once or twice appeared as an epidemic. I have seen a family of three little girls simultaneously attacked, without any special, general or local, cause.

51. It has also been attributed (and is still by the common people in many cases) to an attempt at criminal intercourse; and an instance is given in Percival's Medical Ethics, of a boy who was near suffering capital punishment for this supposed offence, and was saved merely by the occurrence of other cases, concerning which no suspicion could exist. The presence of this discharge is no proof whatever of such an offence, which must be proved by evidence totally independent of it.

But, as this occurrence occasions much distress sometimes, it may be worth while adding a word or two from high authority. "Circumstances," says a writer in the British and Foreign Medical Review, "however, sometimes occur, to render the diagnosis of this point extremely perplexing. We recollect a case of this sort, where two sisters, the one six, the other four years old, were affected with this discharge, and where the extreme youth of the (supposed) culprit would have led to the same conclusion, had not the discovery of well-marked phimosis placed the matter beyond doubt. Precisely similar circumstances we know occurred in the practice of one of our friends."[*] "Dupuytren was lately consulted by a lady about her young daughter, in whom a purulent vaginal discharge, coming on without any apparent cause, had been observed for several days; it was of a greenish-yellow colour, stained the linen deeply, and was so acrid as to occasion painful menstruation. Dupuytren regarded the case as one of catarrhal inflammation of the genitals, and predicted at the time that in all probability several cases of a similar nature would present themselves to his notice in the course of the week: and so it was. They were all treated successfully with tepid baths, emollients, and soothing washes."[†]

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* Fleming, Med. Press, Feb. 24, 1844.

Dr. Taylor, in his admirable work, has referred to a number of similar cases;[‡] and several such have, within the last few years, been made the subject of criminal information in this city, and have been published, with much useful information, by Dr. Wilde.[§]

Without entering too fully into the subject, I cannot avoid making a few observations, which may serve as a guide to my junior readers. 1. The crime of rape, as regards children under ten years of age, has no reference to their consenting: it is a rape if penetration take place, an assault if it do not; and this penetration has been decided to have been effected if the penis be introduced into the vulva, *i. e.* I presume, between the labia. That this may be effected without violence is clear, and therefore without evidences of violence; and so far the case is not one to be decided by medical testimony.

2. But the accusation is generally of "having used violence, and communicated disease;" based, of course upon the appearances observed in the child. Now if, on examination, the boy or man have neither gonorrhœa or syphilis, of course that part of the charge falls to the ground. A man cannot give that which he has not got.

3. A violent attempt at penetration with a child will, I believe, always leave traces that cannot be mistaken, if the examination be made within a few days of the alleged occurrence. There will be some bleeding, a bruised appearance, or laceration. After some time these appearances will diminish and disappear, and therefore it is of importance to note the day on which the examination is made, and period which has elapsed since the alleged offence. But it is suggested that without any attempt at forcible entry, the friction of the male organ may give rise to irritation and inflammation. But, to say nothing of the improbability of a man under venereal excitement so carefully guarding his victim, I doubt very much whether inflammation so excited would run the course of the disease in question.

4. If the accused have gonorrhœa, it will render the case much

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[*] Vol. vi. p. 87.

[†] Journal Hebdom. Med. Chir. Rev. vol. xxi. p. 524.

[‡] Med. Jurisprudence, p. 641, et seq.

[§] Medico-Legal Obs. on Infantile Leucorrhœa, &c

more difficult; and, although it may be considered as suspicious, it by no means proves the party to be guilty. But as I know of no sure means of distinguishing infantile gonorrhœa (if there be such a thing) from infantile leucorrhœa, the case must be decided independent of medical testimony. It may be well to mention that, among the lower orders in this country, there is an opinion that an intractable gonorrhœa may be cured by connexion with a child of the opposite sex.

5. Infantile leucorrhœa is sometimes accompanied with an eruption of eczema, and when the crusts are removed small ulcers are occasionally seen, and these have been regarded as syphilitic. In one such case Mr. Hamilton tried inocculation, and M. Legendre tried the same, without result. How far this test may be regarded as decisive, I cannot venture to decide; but the medical testimony, I should think, must be limited to stating whether the man has the disease or not.

6. Knowing that such a disease as vulvitis, or infantile leucorrhœa, is common to female children, and that it may prevail epidemically, whenever such a charge is made, inquiries should be immediately instituted, as to whether the disease prevails at the time.

7. When a child is presented to us suffering from this disease, the *prima facie* probability is that it is not the result of violence; and nothing but simple and unmistakeable testimony should induce us to alter that opinion. I have always found (and I have seen a great many such cases) that my statement that it was not the result of maltreatment, satisfied the mother, if she came to me soon after the discovery; but that it was much more difficult if she had already adopted the mode of investigation so graphically described by Sir A. Cooper and Mr. Wilde, of first threatening the child, and then suggesting to her not only what had been done to her, but who had done it.

8. Some excuse may be found for the mother's adopting such a plan, in her ignorance and distress, but none for the medical man who follows such a method. In ordinary cases no suggestions should be made to the child, and no leading questions asked; but if such a line of examination have been already taken, the child's accuracy may be tested by leading questions of a different and opposite character. In one case, in which I was consulted, where a man was accused of violence towards two of his wife's sisters, and in which, by the help of the medical man and her own fears, the mother had taught the child her story by suggestive questions, I showed the little value to be attached to her statement, by the facility with which she assented to other suggestions which were beyond the range of probability.

9. The case is quite different when a child comes forward voluntarily to accuse a person of the crime immediately after it has been committed, as in a case mentioned to me by a medical friend. Such a case demands instant and careful investigation. The state of the parts should be carefully noted; as, if violence has been used, we shall be pretty sure to find marks of it. And if not, we may, as was done in the case referred to, detect the presence of spermatozoa on the

child's shift; and, although emission does not prove rape, it proves an assault with intent to commit the crime.

52. *Symptoms.*—The commencement of the disease is marked by local uneasiness, itching, and scalding on making water; the mucous membrane is found inflamed and swollen, but for some time there is no discharge.

The uneasiness felt by the child induces an attempt to relieve it by rubbing the part, which of course increases the inflammation and aggravates the suffering.

At a more advanced stage there is observed a thin, colourless mucous discharge, which shortly becomes more copious, thicker, and of a white or yellow colour. It is often of an acrid character, and causes a circle of inflammation, and sometimes of excoriation of the skin at the margin of the vulva, and now and then an eczematous eruption on the skin and at the edges of the labia. If the labia be separated, the mucous membrane will be found more vascular, and of a deeper colour than usual; but in very few cases does this extend up the vagina.

The distress is increased with the progress of the disease, the smarting and scalding are very severe, and the little patient cannot walk without pain. It is rare to find any constitutional disturbance, unless in those cases where the attack is but the local development of a general catarrh. Under ordinary circumstances, the disease is neither very tedious nor very obstinate; and, after running a certain course, it terminates in resolution.

In a few cases, more severe than usual, I have found an ulcer of varying depth and extent, on separating the labia widely. In every case it was just within the orifice of the vagina, and at the lower part. In one case it proved unusually obstinate, but without assuming the characters of that form next to be described.

53. The cases related by Boivin and Dugès* as having occurred during a general catarrh of the mucous membranes, sometimes presented the appearance of erythema, erysipelas, or aphthæ, and sometimes of superficial ulceration. "In the instances which occurred in the *Hôpital des Enfans malades*, (Dugès observes,†) there were two kinds—the one attacked the weak, cachectic, and exhausted, and followed after encrusted pustules, or rather superficial gangrene of the skin; the other affected the robust and stout, accompanied with swelling, redness, pain, and fever, and beginning directly by an ulcerous point. Both presented a yellowish grey aspect, the edges abrupt like those of chancres; they occupied, however, the exterior rather than the interior of the pudenda: they increased in the same way as phagedenic ulcers or wounds affected with hospital gangrene, of which they presented all

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* Diseases of the Uterus, &c. (*Trans.*) p. 651.

† Ant. Dugès Essai Physiologico-pathologique sur la Fievre, &c. vol. ii. pp. 95, 132. Boivin and Dugès, p. 551.

the characters; the fever increased with their surface, and emaciation and death frequently ensued in the first form. In the second, real gangrene sometimes took place, though most frequently the inflammation subsided easily, and was entirely cured by cleanliness, emollient lotions, moderate diet, and change of air."

Mr. Kinder Wood has given a very graphic description of the cases he observed in 1815.* The patients were from one to six years of age. Of twelve who were attacked, only two recovered. The inflammation of the labia was preceded by rigors, pain in the head, dullness, nausea, loss of appetite, thirst, &c. The distress of the patient on passing urine, first attracted attention; and on examination the labia were found inflamed, swollen, and of a dark colour. Very soon the parts within the vulva became affected, and, from the thin discharge, Mr. Wood thinks it probable that the lower portion of the vagina was involved. The process of ulceration set in rapidly, twenty-four hours sufficing for the production of vesications within the labia; and when these burst, the denuded surfaces coalesced and formed large ulcers. The discharge then became dark-coloured, copious, and offensive, irritating the neighbouring parts, and favouring the extension of the disease to the thighs, perineum, and anus. The pulse was quick and irritable, after the commencement of the inflammation, and the face pallid. The bowels were constipated, and the stools brought away by medicine were dark, slimy, and offensive. In some cases, aphthæ had spread extensively around the anus and over the perineum. The ulcerations in this affection varied in depth and appearance, some being deep and dark-coloured, and others superficial and sprinkled with small red granulations. After the occurrence of ulceration, "the external organs of generation are progressively destroyed, the peculiar pallor of the countenance increases, the pulse becomes quick and weak, the appetite fails, the bowels become loose, the skin of the thighs hangs loose and flabby, as in marasmus, the discharge from the parts increases and becomes more and more offensive, till the patient is worn out and expires."

In the more favorable cases, when the disease was checked by suitable remedies, the ulcerations became cleaner and healed, but the constitution was found to have suffered severely, and a profuse yellowish discharge continued for some time, weakening the patient and rendering her very liable to a relapse. The duration of the disease varied from a fortnight to a month; its extent and the gravity of the symptoms appeared to depend mainly upon the constitutional peculiarities of the patient.

Such is the formidable, though fortunately very rare, variety of the simple disorder first described, the wide difference consisting principally in a greater degree of inflammation (in Mr. Wood's cases) acting upon a deteriorated constitution. Doctor Macintosh* has found a similar attack come on after measles, and he discovered considerable vascularity, with ulceration of the ileum, after death. The same disease was noticed by Dr. Ferriar, of Manchester,† as a concomitant of fever. He says, "that he has met with several instances of putrid fever in young girls, accompanied with broad maculæ on the body and limbs, and a gangrenous state of the labia pudendi. The parts were greatly tumified, and extremely painful. It was a very fatal complaint," &c.

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* Medico-Chir. Trans. vol. vii. p. 84.

As a *consequence* of the milder variety of the disease, adhesion occasionally takes place between the inflamed surfaces, which, at a future period, may impede the escape of the catamenia, or offer an obstacle to coition or parturition, if not remedied. They are easily destroyed, when recent, by separating the labia; but at a more advanced period, it is sometimes necessary to use the knife.

54. *Diagnosis.*—The milder infantile leucorrhœa and the severer form at the beginning, somewhat resemble the *intertrigo* of infants; but the latter generally commences in the fold of the skin between the labia and thighs, and, however severe the excoriation, it never runs on into ulceration.

Mr. Wood thinks the disease he has described resembles the *erysipelas* of infants more than any other disorder.

55. *Treatment.*—The treatment of the *milder form* is simple, and almost always successful. If the irritation be considerable, the parts should be fomented with warm water, decoction of poppies, or marshmallow leaves, three or four times a day. After each fomentation, the parts being carefully dried, black wash, or a weak solution of the acetate of lead, &c. may be applied. When the disease has become chronic, a lotion of sulphate of zinc, or better still, of nitrate of silver, (gr. x. or gr. xv. to ℥i of water) will be preferable.

If the inflammation have extended into the vagina, it will be necessary to inject some of the lotion by means of a small syringe.

The little patient should be kept as quiet as possible, and care must be taken to prevent her rubbing the part. The diet must be moderate, and all stimulants prohibited; laxative medicines may be given occasionally. From the smarting caused by voiding the urine, the child is apt to retain it too long; this must be prevented, and relief may be obtained by bathing the vulva with warm water at the conclusion of each evacuation. If there be any tendency to adhesion, lint spread with simple ointment should be placed within the labia.

Dr. Dewees found benefit from the exhibition of five drops of the tinct. cantharidis three times a day increasing one drop per diem, but omitting it altogether if it caused strangury: and also from the application of a warm plaster to the back.‡

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* Macintosh's Practice of Physic, vol. ii. p. 384.

† Ferriar's Medical Histories and Reflections, p. 169.

‡ Diseases of Females, p. 27.

56. In the *severer form* of the complaint, Mr. Wood recommends us to begin with a purgative, and by "washing the vulva with the 'liquor plumbi acetatis dilutis,' slightly warmed, and by poultices made with the same liquor and soft bread, applied warm, immediately after the parts have been washed." These applications are to be continued until the ulceration is healed. At the commencement of the ulceration, bark must be given internally, and Mr. Wood found great benefit from adding to the decoction some aromatic confection, tincture of colombo, and tincture of opium. Wine may also be given in moderate quantity. At a more advanced stage, when the tumefaction and redness are diminished, and the ulceration stationary, the *ung. oxydi plumbi albi* is very useful as a local application. Should diarrhœa occur, chalk mixture, catechu, powdered chalk with opium, or any other medicine calculated to restrain inordinate action of the bowels, may be given.

57. *Inflammation of the vulva in adults.*—I have already stated that this affection in adults differs considerably from the one just described as occurring in children.

The inflammation is more circumscribed, less apt to occasion a breach of surface, and gives rise to a discharge of transparent mucus only. The pain is also incalculably more severe: I have known the suffering (for the time it lasted) to be as severe as in cancer uteri.*

Adult females of every age are obnoxious to the disease, although it is more frequent among married (especially newly-married) women.

Causes.—Neglect of cleanliness, and the consequent accumulation of the sebaceous secretion: sympathetic irritation, as worms in the rectum, amenorrhœa, diseases of the uterus, &c.; excessive sexual intercourse, and cold, may each give rise to the disease. It is probable that in some cases it may be owing to venereal contagion.

58. *Symptoms.*—The principal symptoms are, very severe pain, increased by motion and contact, scalding on passing urine, a sensation of weight at the vulva, and a forcing or bearing down.

If we examine the external parts of generation, we may discover either a general blush of inflammation, deepening the natural color of the mucous membrane, which is sometimes also covered with patches of a thick creamy exudation: a more circumscribed inflammation, which may attack any portion of the vulva, and is often seen merely surrounding the orifice of the urethra, and occasionally confined to the clitoris; a superficial excoriation, involving partially the adjacent skin: or a few isolated pimples, with a minute speck at the top of each, the rupture of which exposes a very small ulcer. Little or no tumefaction is perceptible in either variety. The general symptoms are pretty much the same in all cases.

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* This is an additional proof, if any were wanting, that the sensibilities of mucous membranes is by far the most acute near their junction with the skin. An astringent injection scarcely ever causes smarting at any part of the vaginal canal, except at its orifice. Nay, the mucous membrane may be excised without pain, except at this part. The same is true of the other mucous membranes.

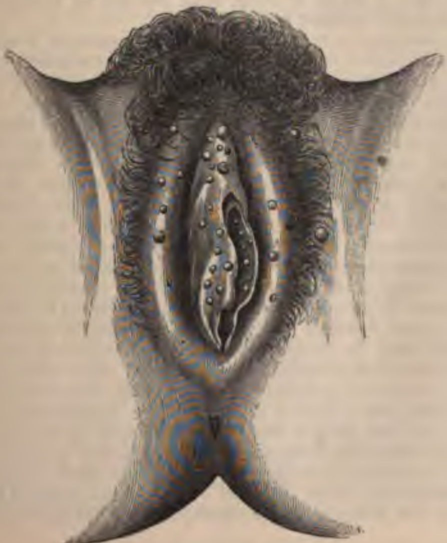
59. Dr. Burns describes a superficial ulceration of this part, which gives rise to a good deal of suffering, but which is easily cured by slightly stimulating washes; and also a deeper kind of ulcer, which, from its resemblance to chancre, is apt to occasion distressing suspicions on the part of the patient or her friends. The surface and edges of the ulceration have, however, a different character, and the result of proper treatment will speedily remove all doubt.

Dr. Huston, the able American editor of this work, remarks that "where pimples are followed by brown scabs, or cream-like exudations occur, there is ground to suspect a venereal taint."

60. Dr. Oldham has recently published a valuable paper on inflammation of the mucous follicles of the vulva, which constitutes one variety of the disease under notice. It is not peculiar to married women, nor to any one period of life. The inflammation is said to be limited to symmetrical patches of membrane at the posterior entrance of the vagina, and under the urethra: examined at the commencement of the disease, a number of small, highly injected points are seen, and the mucous membrane looks much inflamed. At first these points are solitary, and slightly raised on the surface, and a minute speck of ulceration is frequently seen in the centre. These correspond to the follicular crypts of the mucous membrane, and the ulcerated portion to their central pore. After a time the points lose their appearance of being isolated; they coalesce, and a band of vividly injected membrane is formed. The sphincter vaginæ is always contracted, and the mucous membrane is much puckered. In several cases Dr. Oldham has seen the disease extend to the lowest folds of the vagina, the tops of which become very red, and bleed on being touched or separated. In one case, the whole tract of the mucous membrane of the vagina was thus affected. When the disease is of long standing, the color of the mucous membrane of the vulva and lowest part of the vagina is changed to a whitish appearance; especially in women who have ceased to menstruate. The disease is exceedingly intractable, often, tormenting the patient for years. The earliest symptom is leucorrhœa, with more or less irritation of the external genitals, particularly after much standing or walking. The discharge is at first thin and whitish, afterwards thicker and yellowish. It never assumes the viscid, gluey character, but it soils the linen with a yellowish tinge, sometimes having a darker color from the admission of a small quantity of blood, and occasionally having an offensive smell. The part of the mucous membrane affected becomes the seat of a most painful and almost incessant smarting, with now and then a severe attack of pruritus. The patient sits down with pain, and adjusts her seat with

care, first resting on one ischium, and then gradually sinking down on the chair. Sexual intercourse is painful at first, but when the disease is established, it is altogether abandoned, from the intense suffering it causes. Pain in passing water is a very rare symptom. The local symptoms are often aggravated just before a menstrual period, or by mental depression, or fatigue, or constipation. The patient also complains of pain in the loins and about the sacrum, extending to the inguinal regions, and thighs. Separating the parts, for the purpose of examination, gives great pain, and when put on the stretch, the inflamed follicles sometimes bleed. The vaginal orifice is generally contracted, but above the orifice their is neither pain, tenderness, nor heat. This form of the disease, according to Dr. Oldham, differs from eczema, or herpes, or aphthous inflammation of the vulva, in the absence of general swelling, in its evident follicular origin, and in the absence of vesicles.*

61. M. Huguier has also published a memoir on this disease. He distinguishes three periods, eruption, suppuration, and desiccation. That



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* Med. Gaz. May 15, 1846. Ranking's Abstract, vol. iv. p. 305.

form described by Dr. Oldham he regards as a variety of acne affecting the pudendal sebaceous follicles. He also mentions a true hypertrophy of these follicles, which gives rise to warty excrescences, often erroneously supposed to be venereal, and which can only be cured by removal.*

62. M. Legendre has very carefully described† an eruption of herpes attacking the vulva, either in groups or disseminated vesicles. There is little swelling or pain at first, but as the disease advances, the vesicles dry, and there is a discharge of milky serosity, and a superficial erosion, external and internal, succeeds the eruption. Walking, the contact of the urine, and absence of cleanliness aggravate the disease, so that the distress of the patient may be very great: the parts swollen and inflamed with numerous small ulcerations on the external or internal surface of the labia, and along their edge. In this state, the aspect of the patient may mislead us as to the nature of the disease, but a careful examination will generally detect some characteristic vesicles. M. Legendre found soothing applications, and perhaps a slight touch of nitrate of silver, with rest and an attention to the general health, sufficient for the cure.

63. Occasionally, and under peculiar circumstances, a much more formidable form of vulvitis has been observed. For example, M. Chavanne has given an account of an epidemic of gangrenous vulvitis in puerperal women, which occurred in La Charitè of Lyons. "Several of the puerperal women were attacked, three or four days after delivery, with vomiting and diarrhœa, or with febrile paroxysms and abdominal pains, or slight hemorrhage. These symptoms were followed in 26 cases by lassitude or prostration and lowness of spirits, and by the development of œdematous redness of the vulva. In a few cases the disease did not extend beyond this stage, active febrile symptoms however becoming developed: but in the great majority, pultaceous plates, resembling Delpech's pulpous form of hospital gangrene, formed on the interior of the vulva and vagina, closely adhering to the mucus membrane. Although their extension became limited in a day or two, they were not separated by the inflammatory process until the end of the first week, or during the second; small superficial suppurating wounds being left at the points they occupied, which soon healed up, though occasionally degenerating and becoming covered with the same pultaceous mass. In 4 of the 26 cases the disease extended to the uterus and the patients died, having presented all the symptoms of intense puerperal fever, the gangrenous condition of the uterus having become complicated with peritonitis. No cause could be assigned for the development of the epidemic. In 20 of the cases the labor was natural, the forceps, however, having been applied eight times; and

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* Mem. de l'Acad. de Chir. vol. xv.

† Arch. Gen. de Med. 1855, vol. ii. p. 171.

while the affection seized some of the patients who had had very easy labor, others of the inmates, whose cases required active interference, utterly escaped. Besides the 4 cases above mentioned as having proved fatal, three others of the 26 died from metro-peritonitis without extension of the gangrene. The other 19 recovered, the gangrene usually soon yielding to tonic regimen, and the local use of the strong muriatic acid. A very similar epidemic was observed in Lyons in 1815, and another of a similar character recently in Paris."*

64. *Terminations.*—Inflammation of the vulva almost always terminates in resolution, but in many cases it assumes a chronic form, and is tedious and obstinate, occasionally resulting in hypertrophy of the tissues involved. Should the inflammation spread deeper, so as to reach the submucous tissues of the labia, an abscess may be the result; or when complicated with disease of the uterus or peritoneum the case may prove fatal.

Dr. Oldham mentions the extreme intractability of follicular inflammation, and M. Huguier, that warty growths may result from this disease.

Adhesion of the opposite surfaces may take place from neglect, but it is very rare.

65. *Treatment.*—The treatment must be more or less antiphlogistic. In a very few cases, leeches to the vulva may be necessary; but in general, a frequent use of emollient fomentations, such as decoction of poppy heads, or marsh mallow leaves, &c. will abate the irritation; and afterwards blackwash, or lotions of the acetate of lead, or sulphate of zinc will complete the cure. If the case be obstinate, a weak solution of the nitrate of silver will be useful. When there are pimples, they should be lightly touched with the solid nitrate of silver.

Dr. Oldham recommends sedative applications, and has found hydrocyanic acid the best, either as a lotion or ointment, but he prefers the latter. He prescribes two drachms of the acid with a scruple of the diacetate of lead, made into an ointment with two ounces of cocoa-nut oil. The part should be first bathed with infusion of roses, and then the ointment should be applied two or three times a day on lint. A lotion of lime water with opium is often useful, or a poultice made with crumbs of bread saturated with the decoction of conium leaves, to which the liq. plumb. acet. has been added.

A brisk purgative should now and then be administered, and I have found saline purgatives the best. The diet should be moderate, and all stimulants should be avoided. The greatest cleanliness is necessary, and the patient should live "*absque marito.*" Change of air is often of use, and mild tonics. When the health is somewhat recruited, Dr. Oldham has several times tried a mild mercurial course with benefit.

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* Association Journal, Mar. 11, 1853, p. 216, from Gaz. Med. de Paris, 1852.

CHAPTER V.

ENLARGEMENT OF THE CLITORIS.

66. THIS organ is not only occasionally much larger than usual, as a congenital malformation, but the aid of the surgeon is sometimes required on account of hypertrophy of its natural tissues, or deposition of adventitious matter into its substance.

Dr. Hooper* has described what he calls a "cauliflower excrescence" growing from this part. "It mostly arises," he says, "from the præputium clitoridis by a small base, the size of a goose quill, or filbert, though in some instances the base is broader. It soon expands and divides into lobes, which are again divided into other branches, very irregularly, and at length their extremities are flattened and fringed. The whole is of a whitish colour, and very like, in appearance and feel, to an unripe or little expanded cauliflower. This disease of the clitoris and its prepuce cuts like hard gristle, and the divided surface is whitish, smooth, and not vascular to the eye."

Cases in which this organ is much larger than usual, are not very rare, in the majority it is not above two inches in length, and has sometimes given rise to doubts as to the sex of the individual: in others it is very much larger. For example, Dr. Davis states, that "when Dr. John Symes was a student in Edinburgh, there was admitted into the Infirmary of that city a young woman who presented some of the more prominent symptoms of nymphomania." After examination, the surgeon "reported that he had found the external genitals generally in a state of great phlogosis, the nymphæ remarkable for their volume, and the clitoris, especially, enormously enlarged. In a consultation of physicians subsequently held on the case, it was determined to effect the removal of the greater part of the clitoris by an operation." "The removal of the diseased organ proved successful in curing both the local affection and the disordered state of the imagination."†

Mr. Edwards relates the following: "In December, 1833, Mrs. Lindsay, about forty years of age, consulted me regarding her complaints. On inspection, the clitoris was found to be about eight inches long, and of a pyriform shape. The pedicle of the tumour was firm, and about the thickness of the wrist, the most depending part of it hard, and fully larger than two fists. The nymphæ were elongated and covered with a dry, smooth, and pale-coloured cuticle, thickly set the characters; the fever increased with their surface, and emaciation and death frequently ensued in the first form. In the second, real gangrene sometimes took place, though most frequently the inflammation subsided easily, and was entirely cured by cleanliness, emollient lotions, moderate diet, and change of air."

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* Morbid Anatomy of the Human Uterus.

† Davis's Obstetric Medicine, vol. i. p. 60.

Mr. Kinder Wood has given a very graphic description of the cases he observed in 1815.* The patients were from one to six years of age. Of twelve who were attacked, only two recovered. The inflammation of the labia was preceded by rigors, pain in the head, dullness, nausea, loss of appetite, thirst, &c. The distress of the patient on passing urine, first attracted attention; and on examination the labia were found inflamed, swollen, and of a dark colour. Very soon the parts within the vulva became affected, and, from the thin discharge, Mr. Wood thinks it probable that the lower portion of the vagina was involved. The process of ulceration set in rapidly, twenty-four hours sufficing for the production of vesications within the labia; and when these burst, the denuded surfaces coalesced and formed large ulcers. The discharge then became dark-coloured, copious, and offensive, irritating the neighbouring parts, and favouring the extension of the disease to the thighs, perineum, and anus. The pulse was quick and irritable, after the commencement of the inflammation, and the face pallid. The bowels were constipated, and the stools brought away by medicine were dark, slimy, and offensive. In some cases, aphthæ had spread extensively around the anus and over the perineum. The ulcerations in this affection varied in depth and appearance, some being deep and dark-coloured, and others superficial and sprinkled with small red granulations. After the occurrence of ulceration, "the external organs of generation are progressively destroyed, the peculiar pallor of the countenance increases, the pulse becomes quick and weak, the appetite fails, the bowels become loose, the skin of the thighs hangs loose and flabby, as in marasmus, the discharge from the parts increases and becomes more and more offensive, till the patient is worn out and expires."

In the more favorable cases, when the disease was checked by suitable remedies, the ulcerations became cleaner and healed, but the constitution was found to have suffered severely, and a profuse yellowish discharge continued for some time, weakening the patient and rendering her very liable to a relapse. The duration of the disease varied from a fortnight to a month; its extent and the gravity of the symptoms appeared to depend mainly upon the constitutional peculiarities of the patient.

Such is the formidable, though fortunately very rare, variety of the simple disorder first described, the wide difference consisting principally in a greater degree of inflammation (in Mr. Wood's cases) acting upon a deteriorated constitution. Doctor Macintosh* has found a similar attack come on after measles, and he discovered considerable vascularity, with ulceration of the ileum, after death. The same disease was noticed by Dr. Ferriar, of Manchester,† as a concomitant of fever. He says, "that he has met with several instances of putrid fever in young girls, accompanied with broad maculæ on the body and limbs, and a gangrenous state of the labia pudendi. The parts were greatly tumified, and extremely painful. It was a very fatal complaint," &c.

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* Medico-Chir. Trans. vol. vii. p. 84.

As a *consequence* of the milder variety of the disease, adhesion occasionally takes place between the inflamed surfaces, which, at a future period, may impede the escape of the catamenia, or offer an obstacle to coition or parturition, if not remedied. They are easily destroyed, when recent, by separating the labia; but at a more advanced period, it is sometimes necessary to use the knife.

54. *Diagnosis.*—The milder infantile leucorrhœa and the severer form at the beginning, somewhat resemble the *intertrigo* of infants; but the latter generally commences in the fold of the skin between the labia and thighs, and, however severe the excoriation, it never runs on into ulceration.

Mr. Wood thinks the disease he has described resembles the *erysipelas* of infants more than any other disorder.

55. *Treatment.*—The treatment of the *milder form* is simple, and almost always successful. If the irritation be considerable, the parts should be fomented with warm water, decoction of poppies, or marshmallow leaves, three or four times a day. After each fomentation, the parts being carefully dried, black wash, or a weak solution of the acetate of lead, &c. may be applied. When the disease has become chronic, a lotion of sulphate of zinc, or better still, of nitrate of silver, (gr. x. or gr. xv. to ℥i of water) will be preferable.

If the inflammation have extended into the vagina, it will be necessary to inject some of the lotion by means of a small syringe.

The little patient should be kept as quiet as possible, and care must be taken to prevent her rubbing the part. The diet must be moderate, and all stimulants prohibited; laxative medicines may be given occasionally. From the smarting caused by voiding the urine, the child is apt to retain it too long; this must be prevented, and relief may be obtained by bathing the vulva with warm water at the conclusion of each evacuation. If there be any tendency to adhesion, lint spread with simple ointment should be placed within the labia.

Dr. Dewees found benefit from the exhibition of five drops of the tinct. cantharidis three times a day increasing one drop per diem, but omitting it altogether if it caused strangury: and also from the application of a warm plaster to the back.‡

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* Macintosh's Practice of Physic, vol. ii. p. 384.

† Ferriar's Medical Histories and Reflections, p. 169.

‡ Diseases of Females, p. 27.

56. In the *severer form* of the complaint, Mr. Wood recommends us to begin with a purgative, and by "washing the vulva with the 'liquor plumbi acetatis dilutis,' slightly warmed, and by poultices made with the same liquor and soft bread, applied warm, immediately after the parts have been washed." These applications are to be continued until the ulceration is healed. At the commencement of the ulceration, bark must be given internally, and Mr. Wood found great benefit from adding to the decoction some aromatic confection, tincture of colombo, and tincture of opium. Wine may also be given in moderate quantity. At a more advanced stage, when the tumefaction and redness are diminished, and the ulceration stationary, the *ung. oxydi plumbi albi* is very useful as a local application. Should diarrhœa occur, chalk mixture, catechu, powdered chalk with opium, or any other medicine calculated to restrain inordinate action of the bowels, may be given.

57. *Inflammation of the vulva in adults.*—I have already stated that this affection in adults differs considerably from the one just described as occurring in children.

The inflammation is more circumscribed, less apt to occasion a breach of surface, and gives rise to a discharge of transparent mucus only. The pain is also incalculably more severe: I have known the suffering (for the time it lasted) to be as severe as in cancer uteri.*

Adult females of every age are obnoxious to the disease, although it is more frequent among married (especially newly-married) women.

Causes.—Neglect of cleanliness, and the consequent accumulation of the sebaceous secretion: sympathetic irritation, as worms in the rectum, amenorrhœa, diseases of the uterus, &c.; excessive sexual intercourse, and cold, may each give rise to the disease. It is probable that in some cases it may be owing to venereal contagion.

58. *Symptoms.*—The principal symptoms are, very severe pain, increased by motion and contact, scalding on passing urine, a sensation of weight at the vulva, and a forcing or bearing down.

If we examine the external parts of generation, we may discover either a general blush of inflammation, deepening the natural color of the mucous membrane, which is sometimes also covered with patches of a thick creamy exudation: a more circumscribed inflammation, which may attack any portion of the vulva, and is often seen merely surrounding the orifice of the urethra, and occasionally confined to the clitoris; a superficial excoriation, involving partially the adjacent skin: or a few isolated pimples, with a minute speck at the top of each, the rupture of which exposes a very small ulcer. Little or no tumefaction is perceptible in either variety. The general symptoms are pretty much the same in all cases.

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* This is an additional proof, if any were wanting, that the sensibilities of mucous membranes is by far the most acute near their junction with the skin. An astringent injection scarcely ever causes smarting at any part of the vaginal canal, except at its orifice. Nay, the mucous membrane may be excised without pain, except at this part. The same is true of the other mucous membranes.

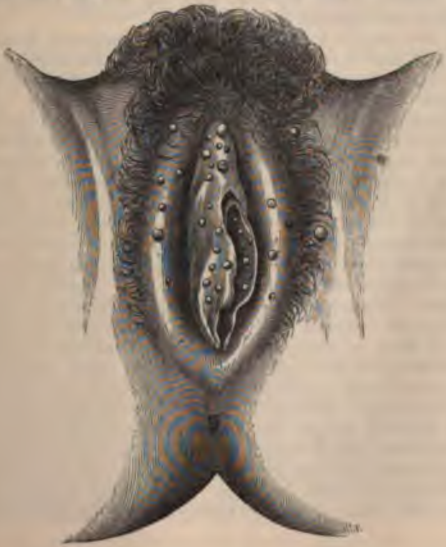
59. Dr. Burns describes a superficial ulceration of this part, which gives rise to a good deal of suffering, but which is easily cured by slightly stimulating washes; and also a deeper kind of ulcer, which, from its resemblance to chancre, is apt to occasion distressing suspicions on the part of the patient or her friends. The surface and edges of the ulceration have, however, a different character, and the result of proper treatment will speedily remove all doubt.

Dr. Huston, the able American editor of this work, remarks that "where pimples are followed by brown scabs, or cream-like exudations occur, there is ground to suspect a venereal taint."

60. Dr. Oldham has recently published a valuable paper on inflammation of the mucous follicles of the vulva, which constitutes one variety of the disease under notice. It is not peculiar to married women, nor to any one period of life. The inflammation is said to be limited to symmetrical patches of membrane at the posterior entrance of the vagina, and under the urethra: examined at the commencement of the disease, a number of small, highly injected points are seen, and the mucous membrane looks much inflamed. At first these points are solitary, and slightly raised on the surface, and a minute speck of ulceration is frequently seen in the centre. These correspond to the follicular crypts of the mucous membrane, and the ulcerated portion to their central pore. After a time the points lose their appearance of being isolated; they coalesce, and a band of vividly injected membrane is formed. The sphincter vaginæ is always contracted, and the mucous membrane is much puckered. In several cases Dr. Oldham has seen the disease extend to the lowest folds of the vagina, the tops of which become very red, and bleed on being touched or separated. In one case, the whole tract of the mucous membrane of the vagina was thus affected. When the disease is of long standing, the color of the mucous membrane of the vulva and lowest part of the vagina is changed to a whitish appearance; especially in women who have ceased to menstruate. The disease is exceedingly intractable, often, tormenting the patient for years. The earliest symptom is leucorrhœa, with more or less irritation of the external genitals, particularly after much standing or walking. The discharge is at first thin and whitish, afterwards thicker and yellowish. It never assumes the viscid, gluey character, but it soils the linen with a yellowish tinge, sometimes having a darker color from the admission of a small quantity of blood, and occasionally having an offensive smell. The part of the mucous membrane affected becomes the seat of a most painful and almost incessant smarting, with now and then a severe attack of pruritus. The patient sits down with pain, and adjusts her seat with

care, first resting on one ischium, and then gradually sinking down on the chair. Sexual intercourse is painful at first, but when the disease is established, it is altogether abandoned, from the intense suffering it causes. Pain in passing water is a very rare symptom. The local symptoms are often aggravated just before a menstrual period, or by mental depression, or fatigue, or constipation. The patient also complains of pain in the loins and about the sacrum, extending to the inguinal regions, and thighs. Separating the parts, for the purpose of examination, gives great pain, and when put on the stretch, the inflamed follicles sometimes bleed. The vaginal orifice is generally contracted, but above the orifice their is neither pain, tenderness, nor heat. This form of the disease, according to Dr. Oldham, differs from eczema, or herpes, or aphthous inflammation of the vulva, in the absence of general swelling, in its evident follicular origin, and in the absence of vesicles.*

61. M. Huguier has also published a memoir on this disease. He distinguishes three periods, eruption, suppuration, and desiccation. That



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* Med. Gaz. May 15, 1846. Ranking's Abstract, vol. iv. p. 305.

form described by Dr. Oldham he regards as a variety of acne affecting the pudendal sebaceous follicles. He also mentions a true hypertrophy of these follicles, which gives rise to warty excrescences, often erroneously supposed to be venereal, and which can only be cured by removal.*

62. M. Legendre has very carefully described† an eruption of herpes attacking the vulva, either in groups or disseminated vesicles. There is little swelling or pain at first, but as the disease advances, the vesicles dry, and there is a discharge of milky serosity, and a superficial erosion, external and internal, succeeds the eruption. Walking, the contact of the urine, and absence of cleanliness aggravate the disease, so that the distress of the patient may be very great: the parts swollen and inflamed with numerous small ulcerations on the external or internal surface of the labia, and along their edge. In this state, the aspect of the patient may mislead us as to the nature of the disease, but a careful examination will generally detect some characteristic vesicles. M. Legendre found soothing applications, and perhaps a slight touch of nitrate of silver, with rest and an attention to the general health, sufficient for the cure.

63. Occasionally, and under peculiar circumstances, a much more formidable form of vulvitis has been observed. For example, M. Chavanne has given an account of an epidemic of gangrenous vulvitis in puerperal women, which occurred in La Charitè of Lyons. "Several of the puerperal women were attacked, three or four days after delivery, with vomiting and diarrhœa, or with febrile paroxysms and abdominal pains, or slight hemorrhage. These symptoms were followed in 26 cases by lassitude or prostration and lowness of spirits, and by the development of œdematous redness of the vulva. In a few cases the disease did not extend beyond this stage, active febrile symptoms however becoming developed: but in the great majority, pultaceous plates, resembling Delpech's pulpous form of hospital gangrene, formed on the interior of the vulva and vagina, closely adhering to the mucus membrane. Although their extension became limited in a day or two, they were not separated by the inflammatory process until the end of the first week, or during the second; small superficial suppurating wounds being left at the points they occupied, which soon healed up, though occasionally degenerating and becoming covered with the same pultaceous mass. In 4 of the 26 cases the disease extended to the uterus and the patients died, having presented all the symptoms of intense puerperal fever, the gangrenous condition of the uterus having become complicated with peritonitis. No cause could be assigned for the development of the epidemic. In 20 of the cases the labor was natural, the forceps, however, having been applied eight times; and

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* Mem. de l'Acad. de Chir. vol. xv.

† Arch. Gen. de Med. 1855, vol. ii. p. 171.

while the affection seized some of the patients who had had very easy labor, others of the inmates, whose cases required active interference, utterly escaped. Besides the 4 cases above mentioned as having proved fatal, three others of the 26 died from metro-peritonitis without extension of the gangrene. The other 19 recovered, the gangrene usually soon yielding to tonic regimen, and the local use of the strong muriatic acid. A very similar epidemic was observed in Lyons in 1815, and another of a similar character recently in Paris."*

64. *Terminations.*—Inflammation of the vulva almost always terminates in resolution, but in many cases it assumes a chronic form, and is tedious and obstinate, occasionally resulting in hypertrophy of the tissues involved. Should the inflammation spread deeper, so as to reach the submucous tissues of the labia, an abscess may be the result; or when complicated with disease of the uterus or peritoneum the case may prove fatal.

Dr. Oldham mentions the extreme intractability of follicular inflammation, and M. Huguier, that warty growths may result from this disease.

Adhesion of the opposite surfaces may take place from neglect, but it is very rare.

65. *Treatment.*—The treatment must be more or less antiphlogistic. In a very few cases, leeches to the vulva may be necessary; but in general, a frequent use of emollient fomentations, such as decoction of poppy heads, or marsh mallow leaves, &c. will abate the irritation; and afterwards blackwash, or lotions of the acetate of lead, or sulphate of zinc will complete the cure. If the case be obstinate, a weak solution of the nitrate of silver will be useful. When there are pimples, they should be lightly touched with the solid nitrate of silver.

Dr. Oldham recommends sedative applications, and has found hydrocyanic acid the best, either as a lotion or ointment, but he prefers the latter. He prescribes two drachms of the acid with a scruple of the diacetate of lead, made into an ointment with two ounces of cocoa-nut oil. The part should be first bathed with infusion of roses, and then the ointment should be applied two or three times a day on lint. A lotion of lime water with opium is often useful, or a poultice made with crumbs of bread saturated with the decoction of conium leaves, to which the liq. plumb. acet. has been added.

A brisk purgative should now and then be administered, and I have found saline purgatives the best. The diet should be moderate, and all stimulants should be avoided. The greatest cleanliness is necessary, and the patient should live "*absque marito.*" Change of air is often of use, and mild tonics. When the health is somewhat recruited, Dr. Oldham has several times tried a mild mercurial course with benefit.

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* Association Journal, Mar. 11, 1853, p. 216, from Gaz. Med. de Paris, 1852.

CHAPTER V.

ENLARGEMENT OF THE CLITORIS.

66. THIS organ is not only occasionally much larger than usual, as a congenital malformation, but the aid of the surgeon is sometimes required on account of hypertrophy of its natural tissues, or deposition of adventitious matter into its substance.

Dr. Hooper* has described what he calls a "cauliflower excrescence" growing from this part. "It mostly arises," he says, "from the præputium clitoridis by a small base, the size of a goose quill, or filbert, though in some instances the base is broader. It soon expands and divides into lobes, which are again divided into other branches, very irregularly, and at length their extremities are flattened and fringed. The whole is of a whitish colour, and very like, in appearance and feel, to an unripe or little expanded cauliflower. This disease of the clitoris and its prepuce cuts like hard gristle, and the divided surface is whitish, smooth, and not vascular to the eye."

Cases in which this organ is much larger than usual, are not very rare, in the majority it is not above two inches in length, and has sometimes given rise to doubts as to the sex of the individual: in others it is very much larger. For example, Dr. Davis states, that "when Dr. John Symes was a student in Edinburgh, there was admitted into the Infirmary of that city a young woman who presented some of the more prominent symptoms of nymphomania." After examination, the surgeon "reported that he had found the external genitals generally in a state of great phlogosis, the nymphæ remarkable for their volume, and the clitoris, especially, enormously enlarged. In a consultation of physicians subsequently held on the case, it was determined to effect the removal of the greater part of the clitoris by an operation." "The removal of the diseased organ proved successful in curing both the local affection and the disordered state of the imagination."†

Mr. Edwards relates the following: "In December, 1833, Mrs. Lindsay, about forty years of age, consulted me regarding her complaints. On inspection, the clitoris was found to be about eight inches long, and of a pyriform shape. The pedicle of the tumour was firm, and about the thickness of the wrist, the most depending part of it hard, and fully larger than two fists. The nymphæ were elongated and covered with a dry, smooth, and pale-coloured cuticle, thickly set with warts. The clitoris presented a similar appearance, except having none of the warty excrescences. The mucous membrane having lost its secreting power, was become smooth and dry, and by reason of the external position of the parts, was converted into an opaque insensible cuticle. The sensibility of the parts, when elongated so as to project beyond the labia, was greatly impaired. With the exception, however, of being of a solid and fibrous structure, they were not in any other respect morbidly deranged. The disease was of two years' standing, and had commenced shortly after the patient's having undergone a course of mercury for syphilis. While the external parts were held aside by an assistant, the clitoris was pulled out as far as possible from under the pubes, and a ligature applied close to the base of the tumor. Excruciating pain was complained of during the first day, after which it gradually subsided. The ligature was tightened every day for eight days, at the end of which the tumor dropped off."*

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* Morbid Anatomy of the Human Uterus.

† Davis's Obstetric Medicine, vol. i. p. 60.

A clitoris was amputated some time ago in Mercer's Hospital, in this city, which in volume was about equal to the head of a child of two years old.

A very remarkable case of enlargement of the clitoris occurred to Dr. Meigs of Philadelphia, and is related by Dr. Ashwell. It was very large, hanging down between the thighs, and consisted of thick blood, effused in consequence of a blow received fourteen years previously. A puncture was made to ascertain the contents, and finding that they were sanguineous, twenty-two ounces were withdrawn, to the great relief of the patient. The tumor was however in the process of refilling.†

I am indebted to my friend Dr. M'Clintock for permission to give the accompanying engraving of a case which came under his care in the Lying-in Hospital. The lower central tumor is the clitoris; the lateral tumors are the nymphæ enlarged.

67. *Causes.*—A principal cause of morbid growth of the clitoris was formerly conceived to be excessive sexual indulgence, but this has been proved to be altogether erroneous by the late M. Parent-Duchatelet, in his work "On Prostitution in the City of Paris." Amongst all the registered prostitutes of Paris (amounting to about 6,000), there were but three examples of enlarged clitoris, and none of them had distinguished themselves for extraordinary abandonment to sexual gratification; and, on the other hand, the clitoris was found of the natural size in females of the most unbridled passions. It is difficult to decide with regard to M. Parent-Duchatelet's work, whether it is most admirable for the extensive, yet minute and precise details it contains, or for the perfect propriety with which such a subject is investigated. Most of the cases, I believe, may be traced to a syphilitic origin.

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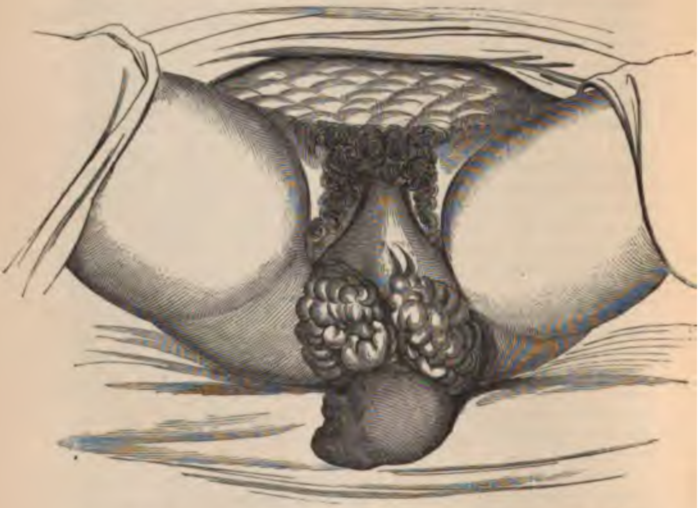
* Med. Chir. Review, vol. xxi. p. 489.

† Ashwell on the Diseases of Females, p. 728.

68. *Symptoms.*—The primary symptoms arise from the mechanical disproportion of the parts; in some cases sexual intercourse has been impeded, and motion rendered unpleasant: in some the sensibility of the part is destroyed, in a few it is augmented, and in these we find sexual desire predominant. In very rare cases this increased sensibility leads to sexual indulgence, which may terminate in nymphomania.



The hypertrophy may be congenital or the consequence of inflammation.

This part is also the seat of scirrhous deposition, most frequently connected with a similar morbid condition of the uterus, ultimately running into ulceration, with lancinating pain, and fœtid discharge, and terminating fatally.[*] At the Westminster Medical Society, Nov. 14, 1840, "a morbid specimen was placed on the table, consisting of the external parts of generation, the uterus and appendages of a lady aged forty-five years of age, who had died from what had been considered carcinoma of the uterus. The disease first came under the observation of the medical attendant in February last. On examination he discovered that the clitoris was much enlarged, hard, very sensible, and partly blocking up the vagina. Ulceration soon began to exhibit itself at the extremity of the clitoris, which soon became destroyed. The ulceration spread quickly to the nymphæ, and eventually quite to the ossa pubis. The patient sunk from the effect of this disease upon the system. The internal organs were healthy; the uterus and appendages were also free from disease."*

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[*] Dewees on Diseases of Females, p. 25; Lond. Med. Jour. vol. ii. p. 115; Bull. Med. Belge, June, 1835.

69. *Treatment.*—If the hypertrophy be slight and the symptoms not very severe, relief may sometimes be obtained from cooling or astringent lotions, or from the application of caustic to the part; but if the enlargement be so excessive as to occassion physical inconvenience, or so sensitive as to give rise to sexual excitement, amputation will be the best remedy.* This may be effected by the knife or ligature. If the tumor be small, and its root contain no large vessels, the knife is the shorter process, and the bleeding may be restrained by cold and styptics: but if the tumor be large, it will be advisable to employ one or more ligatures, and after twenty-four hours cut off the tumor below the ligature. In Dr. M'Clintock's case, the clitoris was first removed by ligature, and afterwards three ligatures were applied to the nymphæ, and after two days the mass was removed by the knife.

Astringent lotions should be used for some time, and the patient kept very quiet.

If when the clitoris is enlarged by malignant deposition, we can ascertain that the uterus is free from disease, we may, under favourable circumstances, remove the former organ, but there are few cases which are permanently cured by the operation, so apt is the disease to be reproduced. If the operation be attempted, great care should be taken to excise the whole of the diseased portion.

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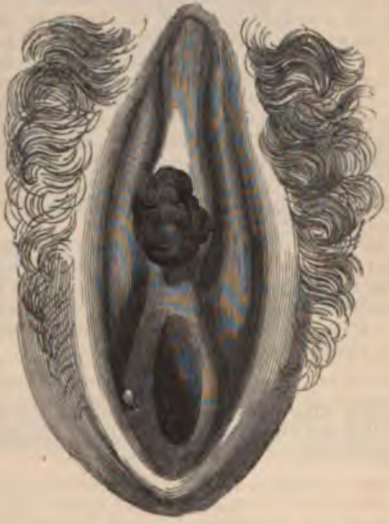
* Lancet, Nov. 21st, 1830, p. 310. See also Mr. Simmons' case in the London Med. and Phys. Journal, vol. v. p. 1; and Mr Kramer's, in Schmucke's Vermischte Chirurgische, &c. vol. ii.

CHAPTER VI.

TUMORS AT THE ORIFICE OF THE URETHRA.

70. I. VASCULAR TUMORS.—The most frequent of these painful excrescences is the small *vascular tumor*. This was first noticed by Mr. Sharp in 1750, who states, "that small excrescences may occasion violent disorders in so tender an organ as the urethra. I have seen a notable instance in the urethra of a virgin, where they grew in small quantity upon the orifice of the meatus urinarius, and for many months had produced the most excruciating torment, which continued until I had totally extirpated them."[*] It is also described by Morgagni, who says, "Examining the body of an old woman, about the year 1751, I met with a triangular excrescence within the external orifice of the



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[*] Critical Enquiry into the Present State of Surgery, 1750, p. 168.

urethra, but it was not prominent." "There is a red and fungous excrescence, which is of the size of a bean, sometimes to be observed attached to the orifice of the urethra."

The next person who observed it was Mr. Hughes, of Stroudwater, Gloucestershire, in 1768. He describes it as of "a red colour, and of a softish spongy texture, with an irregular jagged surface; it was sore when touched, and a bloody serum oozed from it." Mr. H. removed the meatus urinarius, which completely included the disease, and cured the patient.*

Since then it has been more minutely described by Bromfield,† Norman,‡ Sharp, Warner, Jenner, Sir C. M. Clarke,§ Wardrop,‖ Velpeau,¶ Hosack,** Rosenmuller, Vogel, Kaldebrand, Drokaska, and by most recent writers on the diseases of females.

The following is Dr. Hosack's case:—He says, on examining, "I discovered two or three little tumors immediately within the meatus urinarius, to which they were attached by a narrow neck. They were of a florid red colour, and appeared to be covered by the delicate lining membrane of the urethra. They were exquisitely sensible, and bled upon the slightest touch. In form they resembled a split pea, varying in size from that to a small kidney bean, and placed upright in such a manner as to break the flow of the urine." They were snipped off with a pair of scissors, but in three months they grew again. Again they were removed, and the edge of the orifice along with them. At the expiration of a few months they reappeared, and it was determined to excise more of the urethra. After finding the length of the urethra, and determining how much should be removed, Dr. Hosack proceeds, "I seized the fungous excrescence with the "*pince de Museux*," and drawing it out, I circumscribed the urethra with a knife, and carried on the dissection till I had detached about three-fourths of an inch in extent, as I supposed. I then examined the urethra at the upper extremity of the wound, and finding it perfectly natural and free from all hardness, I separated it at that point. The hemorrhage for the moment was very great, but by pressure constantly kept up with a wet sponge, it was arrested, or so much restrained, as to do away with all anxiety on that account." "It is now six months, and no return of the disease."

71. As a general rule, the disease is more frequent in young or middle aged women, but there are many exceptions. Sir C. Clarke never met

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* Med. Facts and Observations, vol. ii. p. 26.

† Chirurgical Observations, vol. ii. p. 296.

‡ Edin. Med. Journal, June, 1849.

§ Diseases of Females, vol. i. p. 289. Lond. Med. Jour. vol. vii. p. 160.

‖ Lancet, vol. xiii. p. 784.

¶ Journal Hebdomad. July, 1836.

** New York Journal of Med. and Surg. No. I. p. 29.

with it in a female past the middle age. Dr. Davis saw one in a patient fifty years of age. Mr. Safford Lee saw them in the old as well as the young; and Mr. Norman relates a case of fifty and another of fifty-two years of age. They also sometimes occur in very young subjects.

Causes.—The causes of these tumors, as of other epithelial growths, are very obscure, the age cannot have much to do with their production, and the temperament nothing. It is possible that they may result from chronic circumscribed inflammation around the orifice of the urethra, already described.

72. *Symptoms.*—At a very early stage the symptoms become sufficiently marked, increasing in distress with the increase of the tumor. The characteristic symptoms are, severe and constant pain in the vulva, increased to agony upon motion or contact, a sense of weight and bearing down, sometimes pains around the loins and down the thighs, a frequent desire to pass water, and generally, but not always, severe pain in so doing.

In this state it is evident that walking is almost impracticable, from the suffering it occasions; sexual intercourse is intolerable, and from the amount of anguish, the patient becomes weak, irritable, and depressed, fearing some serious disease of the womb.

The discharge, which is tolerably copious, is merely an increase of the natural mucus of this part.

The seat of the disease is at once obvious on separating the labia. One or more small tumors will be found at the edge of the meatus urinarius, or entirely concealing that orifice: they vary in size from a small pea to a large nut, or as in Mr. Warner's case to a turkey's egg; but the large ones are exceptions to the general rule.

They vary also in consistency from an almost jelly-like mass to one of considerable firmness, but bleeding when touched. Some are smooth on the surface, others granulated, resembling in colour and appearance a raspberry. With very rare exceptions they are extremely sensitive to the touch, whether they are large or small.

The tumor is moveable, being generally inserted by a kind of stalk either with the little tubercle just above the meatus, or into the lip of the meatus itself. I have seen one case in which the circumference of the mucous membrane of the urethra, and for some distance up the canal, was involved. Mr. Norman states that the entire canal may be the seat of these excrescences.

They appear to consist of vessels and their connecting cellular tissue covered by a membrane. In this opinion Sir C. Clarke, Boivin and Dugès and Mr. T. S. Lee agree. Mr. Warner describes a number of fibres in one he examined, and Dr. Davis mentions that those he removed, when examined in water, showed a fibrous structure.

Mr. Norman has given us Mr. Quekett's microscopic examination of one of the tumors as follows: "The specimen was of an oval figure, about two lines in length in its long diameter. It was white and had numerous small confervoid filaments attached to its outer surface, from having been some time in water. A thin slice from the external surface, when examined microscopically with a power of 200 linear, exhibited the same structure as ordinary cuticle; the epithelium of the outermost layer being composed of flattened scales, whilst the cut surface exhibited the same kind of cells, more condensed and firmly adherent together; a vertical section through the middle of the mass showed several papillæ of various sizes, which were very vascular and surrounded by an investment of cuticle, which, with the papillæ, made up the entire mass of growth; at the part where the papillæ were situated, the growth was smaller than at the opposite extremity, as though it had been attached by a constricted neck or pedicle. The papillæ, no doubt, were largely supplied with nerves as well as bloodvessels, but their presence could not be detected by the microscope. The growth then may be said to consist of hypertrophied papillæ, invested with a thick layer of cuticle which projected from the general surface of the mucous membrane in a wart-like form."* They may be therefore considered as a variety of epithelioma, and are extremely liable to be reproduced after excision: when any extent of the surface of the urethra is affected, they seem to grow again almost as fast as we destroy them.

73. *Diagnosis.*—If the symptoms alone be taken into account, we shall surely mistake the disease either for a uterine affection or disease of the bladder; but, as in all similar cases, an examination ought to be made, there will be little difficulty in arriving at a correct conclusion. The detection of the small red tumor at the orifice of the urethra will speak for itself, but if this be not apparent, we ought not to omit dilating the orifice, and examining the condition of the mucous membrane within.

74. *Treatment.*—The removal of the tumor is absolutely necessary to the cure of the disease; the only question is the mode by which it can be best effected. In the text of Sir C. Clarke's Essay, he advises a broad ligature as more likely to prevent a recurrence of the disease, but in a note appended to it he states, that further experience has led him to prefer excision and the application of caustic to the root of the tumor.

Dr. F. Ramsbotham, in his lectures, as reported in the Medical Gazette, gives the preference to a thin silk ligature.

Dr. Lever prefers tying the tumor, when it is of the form of a cherry or mulberry, with waxed dentist's silk, and then cutting off the tumor below the ligature.

M. Dugès states that he has seen the disease cured by astringent lotions alone; and Dubois and Cullerier recommend cauterization without excision.

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* Edin. Monthly Journal, vol. ix. p. 804.

Instead of using caustic after excision, Mad. Boivin sprinkles the part with powdered alum.

Mr. Norman prefers the ligature, and afterwards a strong caustic.

I have used both, and I confess I much prefer excision and the application of nitric acid, as being quicker, and on the whole less painful. I think too, that the tumor is less liable to grow again if the caustic be freely applied to the raw surface; and in this practice I am happy to have the support of Mr. Baker Brown. He mentions that Mr Brigham of Lynn found that the most successful treatment was the application of the actual cautery to the extremity of the tumor, and that more than one touch was rarely required.*

If excision be determined upon, the tumor should be snipped of with a pair of scissors, close to the mucous membrane, and the root touched with lunar caustic, nitric acid, or the potassa cum calcē.

The operation occasions some pain, which soon passes off, and it is seldom followed by hemorrhage to any amount.

After a few days the caustic should be re-applied to the root of the tumor, and repeated at intervals until the disposition to reproduction has entirely ceased.

In those cases where a considerable extent of the mucous membrane of the urethra is affected, the growth being small, cannot in many cases be removed either by ligature or the scissors. In a case related by Dr. Davis,† after the excision of the tumors within reach, he found great benefit from the daily use of large bougies, portions of the excrescence coming away with each removal of the bougie. In a case of Mr. Warner's,‡ when a growth of this kind was situated near the neck of the bladder, he first dilated the urethra, so as to examine with his finger, and then divided the urethra about half way to the bladder, and applied a ligature to the tumor.

The only remedy I have found necessary, in the cases I have seen, is the repeated application of caustic. I dip a pointed pencil of soft wood in strong nitric acid, and gently put it into the urethra so far as may be necessary, and although the cure is more tedious, I have found it effectual.

After the tumor is removed, and the caustic applied, the parts ought to be kept constantly wet with some refrigerating lotion, as a means of preventing inflammation and the re-formation of the tumor.

It will be necessary for the patient to take two or three doses of purgative medicine, and to remain very quiet for some days.

In the larger majority of cases I have found one or other of the foregoing modes of treatment successful, but a few seem to defy all our efforts; the tumor being reproduced notwithstanding our having apparently destroyed every portion of it.

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* On the Surgical Diseases of Women, p. 137.

† Obstetric Med. 6th ed. p. 86.

‡ Reports and Cases in Surgery, p. 309.

75. II. *Encephaloid or carcinomatous tumors* are occasionally met with in this situation, and have been well described by Boivin and Dugès.*

The reader will find a fearful example of this kind of tumor related by Mr. Brayne of Banbury, in the 4th vol. of the Transactions of the Provincial Medical and Surgical Association. It had grown to an enormous size, weighing "full eleven pounds." The effect upon the patient was what might be expected. Her constitution was breaking down, without hope or help from medicine or surgery.

They are generally symptomatic of an analogous morbid condition of the uterus, and consequently are rarely seen in young females.

76. *Symptoms.*—The symptoms resemble those noted in the vascular tumor, with the addition of such as are attendant upon the primary disease.

They give rise to intense irritability of the vulva, scalding, smarting, and a mucous discharge. On examination, a lobulated tumor or a cluster of them (seldom of a large size), is discovered. They are extremely painful when touched.

Diagnosis.—The age of the patient will be in some degree a guide to us; and an internal examination, if it detect disease of the uterus, will probably remove all doubt.

77. The *treatment* will entirely depend upon their being complicated or not with uterine disease. If they be, little ought to be attempted, as no permanent relief can be obtained, and the additional distress caused by them is but a small portion of the patient's sufferings.

If they be not complicated, however, we may perhaps afford relief by excision, cauterization, and cold applications, precisely as recommended in the vascular tumor.

Greater care will be required to secure complete extirpation, on account of their malignant character and facility of reproduction.

CHAPTER VII.

URETHRITIS.

78. We are indebted to Dr. Ashwell† for the first description of this disease: in his cases it appeared in a chronic form, but in Dr. M'Clin-

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* Diseases of the Uterus, &c. Trans. p. 546.

† Diseases of Women, p. 742.

tock's cases* it seems to have been more acute. It may occur in women of every age, during pregnancy, or when the uterine system is quiescent: three of Dr. Ashwell's cases were widows. Of course urethritis may be the result of gonorrhœa, or may accompany cancerous affections; but of these cases I do not now speak. The affection certainly occurs independently of them. It may be either acute or chronic according to the time we are called in.

79. *Causes.*—These seem to be very obscure. Dr. Ashwell thinks women of an irritable constitution more liable to the attack, and that disappointment or mental distress may predispose to it. In a case under my care, it followed pustular eruption of the cervix uteri. It does not appear ever to be caused by labor.

80. *Symptoms.*—The most prominent symptom is a burning pain along the urethra constant or in paroxysms, independent of micturition, but greatly aggravated by it, and with a species of tenesmus, a forcing and bearing down. The urine may be unchanged in character or quantity, but it is passed so frequently that there is but little to discharge each time. Dr. Ashwell mentions that it is sometimes slightly albuminous for days together; in other cases it contains lithic acid: sometimes it is loaded with ropy mucus: occasionally but rarely there is pus, and not uncommonly traces of blood, evidently from the strangury. There is no discharge from the vulva or vagina. On making an examination there are no marks of inflammation about the vulva or vagina; nor need the uterus be diseased, although it was in one of my cases. If the orifice of the urethra be dilated, the mucus membrane is seen to be unusually florid, and it may be so swollen as to be everted and protrude at the orifice, as in one of Dr. M'Clintock's cases. The passage of a catheter gives most acute pain, but this pain does not extend to the bladder, in which neither calculus nor any trace of disease is found.

Pressure upon the urethra is painful in severe cases, and in those, sexual intercourse is distressing, but not in the milder forms.

At first the flow of urine may be free, but it may suddenly stop, from spasmodic constriction probably, and to this will succeed excessive and painful forcing.

The constitution does not suffer more than we should expect from the prolonged pain and distress; menstruation is uninterrupted; there is no vomiting, the appetite is bad and capricious, and the patient has a worn and jaded look, partly from suffering and partly from disturbed rest.

I think that I shall convey a better idea of the disease by quoting one of Dr. Ashwell's cases, merely premising that it was a severe case.

Case I.—Mrs. ——, æt. 50, mother of several children, residing in

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* Ranking's Abstract, vol. ix. p. 318.

Kent, came to me in March, 1849, complaining of distressing pain before and after micturition. She ceased to menstruate three years since, and soon afterwards this smarting burning pain commenced. At first she disregarded it, but about two years ago the attacks occurred independently of micturition, and continued with varying severity for several days; being accompanied then with pains in the back, loins and thighs, and a rather copious leucorrhœal discharge. She is thin although formerly fat, weak and very irritable; her appetite is nearly gone, and she craves for highly seasoned food; thirst great; sleepless nights from the pain, and complains greatly of forcing about the rectum and vagina, as well as the urethra. She consulted Dr. Bull of Finsbury, but although relieved for a time, the pain both before and after micturition, soon returned in an aggravated degree. Her appearance is distressing, every feature evincing the pressure and wearing influence of the disease.

On examination, I find the uterus of normal size and position; the os and cervix are both healthy, nor is there any leucorrhœa. The vagina is hot and somewhat tumid at its lower extremity; the slightest pressure gives pain along the whole course of the urethra, and its external opening is highly inflamed and somewhat everted. On distending the canal by a pair of dressing forceps, I can see distinctly several ulcerated spots, and to the urine passing over these she attributes her worst burning pains. There is also tenderness and heat about the perineum. On testing the urine by heat, traces of albumen were distinctly evident. On several subsequent occasions the same result presented itself. I ordered the copaiba pills three times a-day, with ten minims of the liquor opii sedativ.; the poppy hip-bath night and morning; gum water as common drink; mild, unstimulating diet; and the recumbent posture. At the end of a week, as there was no improvement, and as she complained of pain in the perineum, I increased the liq. opii sedavit. to twenty minims three times daily, with ten grains each time of the copaiba, and I ordered the following liniment to be well rubbed into the perineum every night:

℞—Tinct. lyttæ.
Acid. acetic. destillat. ℥vj.
M. ft. Lotio.

April 10.—Says she is greatly relieved; the attacks of pain are less frequent, although still burning, but sleeps better and thinks the irritating wash has done good; tells me she has never been off the sofa excepting at meals and just to stretch her limbs; attributes much of the relief to this absolute rest. Enjoined not to alter any part of the treatment.

April 20.—Mrs. W. heard suddenly, a few days since, of the death of a niece; was much affected by it, and has had much exertion since; the consequence is, that the burning sensation has returned, and every symptom greatly aggravated. She resumed most sedulously her former treatment and care, but without much relief; and as the urethral pain was nearly constant, and her health was gradually giving away, I determined to try in addition, the application of caustic and belladonna.

I introduced a catheter constructed with an open orifice, carefully rounded, so as to give no pain on introduction. In this instrument I placed a small piece of sponge, saturated with the strongest solution of nitrate of silver, previously fastened on a piece of stiff but pliable catgut. When the catheter had reached the extremity of the urethra as it terminates in the bladder, the sponge was pushed beyond its orifice, so as to come fairly in contact with the circumference of the canal; the catheter and catgut were now slowly withdrawn, and the whole tract of the urethra was thus thoroughly coated with the solution. Immediately afterwards, that the pain produced by this strong application might be rendered tolerable, I introduced precisely in the same way a sponge saturated with a strong solution of belladonna, or crude opium.

This was repeated every day for at least a fortnight. Towards the middle of May there was a marked improvement, the copaiba having been discontinued for several weeks, from having produced nausea and vomiting. From this period till the end of July, 1849, the plan was laid aside, resumed and modified. Various antacids, magnesia, soda and sarsaparilla were exhibited, and after a two months' sojourn at the sea-side, this patient pronounced herself well. For several years, certainly up to 1852, I continued to hear from Mrs. W., but there had never been any return of the malady.

I had no reason to suspect gonorrhœa or syphilis, but there was in this case, for several years prior to the attack of the malady, a painful and a complete giving up of sexual intercourse. To the annoyance and disappointment consequent on this necessary step, as she had been perfectly healthy before, the incursion of the disease may be fairly attributed. I was several times on the point of giving mercury, but her weakness and emaciation were so great, that I feared its consequences, even if it had proved curative.*

81. *Treatment.*—Dr. Ashwell observes, that this must vary; "depending as to its character and extent, on the mild or aggravated form of the individual case. Where the malady is of recent origin and not severe, neither mercury nor caustic are required. In such instances as those recorded by Dr. M'Clintock, copaiba (five grains of the extract three or four times daily) may be persevered in till the peculiar symptoms begin to yield. The effect of this remedy must be aided by unstimulating diet, and demulcent drinks. Gum water is beneficial; wine and spirits will aggravate the suffering. A strong poppy hip-

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* Medical Circular, Aug. 22, 1855.

bath, at 100 degrees, the patient sitting in it night and morning for half an hour each time, soothes and often gives great relief. It is scarcely necessary to dwell on the importance of an aperient state of the bowels, or on the recumbent position, for the patient soon discovers that constipation and consequent effort in relieving them, or fatigue in walking, and going up and down stairs, or standing, are provocative of aggravated suffering. I have several times applied leeches to the perineum and round the external orifice of the urethra, and with marked success. In the more aggravated forms no good has been obtained, and I have heard the patient say after their use, that there was increased burning. As further details of the treatment to be pursued will be found in the appended cases, I shall not incur the risk of tautology by dwelling upon it here. I must, however, caution the practitioner against promising too much. Where the disease is really confirmed, he will often fail even to relieve, and certainly he will very rarely if ever effect a rapid cure. If this admonition be disregarded, the patient's confidence will soon be lost, but if as a preliminary it be emphatically impressed on the patient's mind, that although the disease does not endanger life, it is exceedingly difficult to cure; the way is prepared for the avoidance of painful disappointment, either from the frequent failure of remedy, or the duration of the disease. Still she may be *assured* that the disease is curable: nor am I aware of any case which has eventually resisted remedial measures."

Dr. M'Clintock tried astringent lotions, anodyne lotions, and the application of nitrate of silver without benefit in one case; but the disease yielded speedily to balsam copaiba, a capsule three and four times a-day. In his second case, he began at once with the copaiba, and succeeded in curing the patient without any local applications.

PART II.

DISEASES OF THE INTERNAL GENITAL ORGANS.

SECTION I.—DISEASES OF THE VAGINA.

CHAPTER I.

OCCLUSION OF THE VAGINA.

82. Partial or complete closure of the vagina, generally though not invariably the result of disease, and under ordinary circumstances not frequently attended with danger to life, does yet give rise to such inconvenience and distress, to such functional inaptitude and inefficiency, as to demand a somewhat detailed notice.

In considering the subject we must bear in mind that the closure may be partial or complete; that it may be either congenital or acquired, and that it may occupy different portions of the canal.

I propose, therefore, to describe, 1st, the congenital malformations, and, 2nd, those which result from disease or injury; and under each head I shall consider them in the order in which they occur anatomically, that is, closure of the orifice first, and then of the canal.

83. I. *Persistent hymen.*—Under this head I include those cases in which the hymen, whether normal in form or irregularly perforated, is so resisting that it persists under circumstances in which it is usual to find it destroyed. No doubt this arises mainly from the unusual toughness of this membrane, but it may also be partly owing to the absence of the ordinary amount of destructive force. Until marriage take place, of course no ill effects result, the catamenia escape with perfect freedom, and indeed, unless some uterine affection require an examination, the peculiar firmness of the membrane or even its existence is unknown. Some of the most perfect hymens I have ever seen have been in elderly unmarried women, but we do not *necessarily* find the hymen in unmarried women of any age.

In almost all cases the membrane is either torn or completely dilated soon after marriage; but in a few it is sufficiently firm to offer a successful resistance to complete intromission; and considerable inconvenience and distress may result either from the repeated attempts and as frequent failures, with the local irritation and tenderness to which they give rise, or from the consciousness of their being some unusual formation which renders the natural relation of the parties incapable of being fulfilled. I have more than once known serious unhappiness result from this cause, and I have repeatedly seen so much local irritation arise as to preclude the possibility of any further attempt at connexion. In one case about which I was consulted some years ago, I found the hymen rigid and persistent, the vaginal orifice very small, but the urethra extremely dilated, and I ascertained beyond all doubt that intercourse always took place through the urethra. Dr. Beck mentions a similar case, and Dr. Davis has quoted one by M. Champion,* but no others I believe are on record. They illustrate strikingly the amount of resistance offered by this membranous septum.

In works on Medical Jurisprudence the rigidity and persistence of the hymen is mentioned among the *curable* causes of sterility, and justly so; for whilst we have all probably seen cases in which sterility was the result of persistent hymen, there are many others in which, as in Dr. Oldham's case,† the removal of this impediment has been immediately followed by impregnation. But we are not to conclude from this, that a persistent hymen necessarily or always precludes impregnation. Many instances to the contrary are on record. Foderè relates a case from Fabricius, where the husband demanded a dissolution of marriage from the impossibility of having perfect connexion. Yet the woman was found to be pregnant, and an incision easily removed the obstacle.‡ Drs. Tucker, Merrinan,§ Davis,‖ and Crosse¶ relate similar cases in which the orifice was not larger than a pea, and yet pregnancy occurred; and many others might be adduced. I attended a lady in her confinement some years ago, in whom the hymen was perfect and distinct, and the orifice so small that I could not introduce my finger far enough to ascertain the presentation. It is impossible that intromission could have taken place.

I may add that some of these cases, instead of the usual semilunar shaped hymen, with the opening superiorly, present the aspect of a membrane perforated with one or more holes, or of one or more bands across the vaginal orifice.

84. *Treatment.*—Fortunately the treatment of these cases is very simple, whether pregnancy exist or not, and bears no proportion to

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* Journal Universel, vol. xli. p. 241.

† Med. Gazette, 1849, p. 48.

‡ Beck's Medical Jurisprudence, p. 63.

§ On Difficult Parturition, p. 216.

‖ Obstetric Medicine, vol. i. p. 104-5.

¶ Cases in Midwifery, p. 55.

the distress previously. In many cases the orifice may be increased by bougies of increasing size, and wax candles are as good as any; and if this fail, or without losing time in trying them, the easiest way is to divide the membrane by the knife or scissors, and prevent reunion by a pledget of lint dipped in oil. Bougies may afterwards be used to secure the full dilatation of the orifice.

85. II. *Imperforate hymen.*—Many cases are on record in which the vaginal orifice is completely closed from the urethra to the fourchette as a congenital malformation; a simple line or a protruding membrane marking where the opening ought to be. I agree with Dr. Ashwell that this state of things cannot be very rare in young children, as I have seen a good many such cases, and even two or three in the same family, and I suspect that most of these are remedied before the time arrives when it would be inconvenient: it is at least certain that imperforate hymen is more common in childhood than after puberty.

During the former period of course it occasions no inconvenience, but if discovered it may easily be remedied by drawing the labia firmly apart, or by the introduction of a probe through the upper part, and pressing it downwards so as to break through the membrane; or lastly, if the other methods fail, by using the knife very carefully. A pledget of oiled lint should always be introduced into the vagina, or the parts will reunite, and the operation have to be repeated.

86. After the age of puberty, however, as the catamenia cannot escape, other phenomena will be observed. Each month the patient has the symptoms of approaching menstruation, malaise, pain in the back, weight about the pelvis, weariness, headache, &c. and increasing in intensity each month, but without any discharge. To these symptoms are added likewise, a sense of bearing down, weight at the vulva, and gradually, though slowly, a tumor above the pubis. The general health suffers a good deal, the complexion becomes sallow, the appetite deficient or fastidious, and the bowels constipated: the patient is weak, languid and indisposed for exertion. Almost constant pain or uneasiness in the bowels is present, and a sense of painful discomfort.

At length, the mother, attracted by the local distress and the menstrual molimen without menstruation, causes an examination to be made, and the true cause of the distress is detected. On separating the labia, we find a membranous pouch protruding, more or less, where the orifice of the vagina ought to be. It is of a dark red colour, resisting, elastic, and more or less soft according to its thickness. When pressed it is painless, but it gives to the finger the sensation of fluid behind it. In thickness it varies much; it is often merely a membrane of ordinary thickness, sometimes as thick as the parietes of the intestines, in other cases much thicker. In Dr. Physic's case the membrane was of considerable thickness, extending some distance up the vagina.* Dr. Cormack describes it as a "solid mass of flesh."† In a case detailed by Dr. Debron, he divided a substance to the depth of two inches and a half before arriving at the distended uterus. The uterus was also imperforate, and an opening was made which gave exit to the retained menses. Ultimately menstruation was established, the patient married and became pregnant. At the time of labor the os uteri did not yield, and M. Debron made several lateral incisions. Convulsions supervened, and the delivery was terminated by the forceps; but peritonitis set in two days afterwards, and terminated fatally in ten days.‡

Dr. Watson has related the case§ of a girl who had never menstruated, but who had sexual desires. On inspection it was found that she had no vagina. There was no abdominal swelling. Dr. Watson divided the tissue to the depth of an inch and a half, and then opened into the upper part of the vagina leading to the os tincæ. The remarkable fact is, that notwithstanding her general good health and development of the presence of sexual desire, the uterus was undeveloped, and never secreted menses. We shall find a repetition of this curious adaptation in the case of acquired occlusion.

A case occurred lately at St. Bartholomew's Hospital in which a similar obliteration, for about two inches, of the lower part of the vagina existed, which was divided by Mr. Wormald. He found the os uteri imperforate also, and plunged a trocar into it, giving exit to fourteen ounces of retained catamenia.‖ The patient went on very well for some days, but ultimately died just eight days after the operation.

It is evident that in these cases both the aspect and the touch must yield different results from those in which the septum is thin, and this should be borne in mind.

If we examine above the pubis, unless the uterus be not developed, or be atrophied, we shall find a tumor varying in size according to the amount of fluid, resembling the uterus in shape, and occupying the same situation. If a sudden movement, the fillip of a finger for instance, be given to this tumor, the shock is sensitively felt at the septum between the labia, unless it be very thick, with a sense of fluctuation. If an examination, *per rectum* be made, we can feel, anterior to the rectum, a distended sac, apparently containing fluid, and which may be traced upwards to the brim of the pelvis.

Of course the amount of distension downwards or upwards will vary according to the quantity of retained menstrual fluid. I have seen the uterine tumor as large as at the sixth month of pregnancy.

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* Dorsey's Surgery, vol. ii. p. 368.

† Medical Comment. p. 187.

‡ Gazette Medicale, Mar. 1851. Ranking's Abstract, vol. xiii. p. 189.

§ New York Journal of Med. 1845.

‖ Med. Times and Gazette, Dec. 11, 1852, p. 592.

What is, or might be the natural termination of such a condition, if left alone, it is hard to say. In Dr. Stedman's case the menses seem to have escaped by the urethra.* A case is related by Dr. Jackson bearing somewhat on this point. The occlusion had been detected in his patient seven years previously, but nothing had been attempted for her relief. She died suddenly of some other disease, Oct. 25; and although the distension of the uterus, fallopian tubes and vagina was very great, and had undoubtedly been accumulating for more than seven, very probably for ten years, none of the tissues had given way.† I have not met with any case in which rupture of the uterus occurred, nor more than one in which the fluid found its way into other organs. A case is related by Dr. Marchand in which he operated, and gave exit to two or three quarts of retained menses: the patient went on well till the fifth day, when she was seized with peritonitis, of which she died on the ninth day. On dissection the fallopian tubes at the ovarian extremity were found filled with black blood, and there were some drops of it in the peritoneum, in contact with them, from which Dr. M. infers that this escape of blood was the cause of the peritonitis. It may have been of course, but it is curious that it should not have occurred until after all distension was removed, and we must not forget that even without any effusion there is a tendency to peritonitis in these cases.‡ One can easily conceive the possibility of such an accident, or of the patient being exhausted by pain and fever; and undoubtedly we have no grounds for leaving the patient without assistance, when the remedy is simple and safe.§

I have said nothing as to the formative error which results in these congenital closures, because I did not wish to encumber a practical work like the present with somewhat doubtful speculations. I am however tempted to give an extract from Mr. Humphrey, and refer the reader to his paper for further details. After stating that other apertures, mouth, nose, eyes, &c. are closed at an early period of embryonic life, and opened at a later, by absorption, he observes: "forasmuch as the early mode of formation of the cloaca, at the lower extremity of the fœtus, is similar to that of the primitive oral aperture, it seems a reasonable inference, that, in the further process of development, when the perineum is formed, the vagina is, like the mouth, nose, and eyes, closed by a rudimentary structure, and that as the labia acquire their proper structure, so the rudimentary tissue which had united them is removed and the opening is established." "The persistence of this rudimentary structure, constituting *atresia vaginæ*, would accord exactly with the condition we often see in young children, and with that occasionally observed in adults. As a general rule, it would appear that the removal of this structure takes place from above downwards, for in little children, who are the subjects of cohesion of the labia, there is generally an orifice at the upper part, near to the opening of the urethra, and a probe may be passed through this orifice into the vagina, behind the uniting medium, which in every case that I have seen has been thin and soft, so that slight pressure with the probe was sufficient to divide it, and bring the parts to their natural state."*

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* Edin. Med. and Surg. Journal, vol. xxxvii. p. 26.

† American Journal of Med. Science, July, 1850.

‡ Archives Gen. de Medecine, July, 1851.

§ Many references to cases of imperforate vagina might be given. Dr. Davis mentions the following: Journal de Med. vol. xxii. pp. 501 and 512. Journal de Med. by Corvisart, vol. xiii. p. 29, vol. xviii. p. 189, vol. xx. p. 231. Manneau, vol. ii. obs. 231. Journal Gen. de Med. vol. ii. p. 284. Baudelocque, Midwifery, vol. i. p. 27. Lond. Med. Journal, vol. iii. p. 159. Ephem. German, Dec. 3, p. 146. Hist. Comment. de rebus Sc. Nat. et Med. Lips. vol. vi. p. 680. Med. Comment. 1788, vol. iii. p. 278. Duncan's Annals of Med. vol. ii. p. 231, &c.

87. *Treatment.*—It would appear that some very high French authorities, Sabatier, Dupuytren, Capuron, and others, object to operating on imperforate vagina, when the os uteri is imperforate, on the ground that rapid and fatal metritis is likely to result from opening the os uteri. Now it will be very hard to decide whether the os uteri is perforate or imperforate in most cases when the vagina is quite closed, unless after an operation, and it does not appear very logical to adduce a contingent probability as an impediment to a positive good. But experience has shown, as we shall see by and bye, that opening the os uteri is by no means necessarily or frequently fatal; and I conclude, therefore, that in case of imperforate vagina our present duty is clear, viz. to remove by art the obstacle to the evacuation of the catamenia.

The patient should be placed on her back, the thighs widely divaricated, and the labia separated by an assistant. If the membrane be of moderate thickness we have merely to plunge a sharp pointed bistoury through it at its upper part, below the urethra, and enlarge it downwards, making the opening sufficiently large, as it will contract afterwards a good deal.

If the septum be thicker we must proceed more cautiously to divide the parts in the natural direction of the vagina, cutting slightly and feeling our way with the finger until we pass the obstacle and arrive at the collection or at the cervix uteri. In proportion to the extent of incision necessary must be our care and caution to go in the right direction, and to avoid injuring the urethra, bladder, or rectum. A catheter in the bladder, and a finger introduced occasionally into the rectum will be valuable guides, and by the finger the incision may be enlarged, so as to secure an ample vagina thus artificially formed.

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* Ranking's Abstract, vol. xiii. p. 194. From Prov. Med. and Surg. Journal, Dec. 11, 1850.

Some have recommended a crucial or stellate opening, and Mr. Baker Brown advises the removal of the entire hymen,* on the ground of the diminished liability to contraction or adhesion. The operation is of course more tedious and painful (unless chloroform be used), but in cases when the hymen is of unusual thickness and density I think the operation very suitable. He relates two successful cases.

When the obstacle is overcome, a thick tenacious fluid will escape, of a reddish brown colour, without smell, and possessing the chemical and microscopical characteristics of the menses in a condensed form.

The fluid evacuated in Mr. Wormald's case, when examined microscopically, was found to consist of epithelial scales, and altered blood discs.

Pressure should be made on the uterine tumor until, by the evacuation of its contents, it disappears, and then a binder with compresses should be firmly applied. For a day or two we may allow the fluid to drain away quietly, but then it will be well to syringe out the vagina with warm water, and to introduce into the orifice a pledget of oiled lint, or a sponge tent, to prevent the orifice closing. By degrees the discharge will cease, and the edges of the orifice having healed, the opening will remain patent, and the patient will be cured. But, remembering the disposition of such an artificial opening to contract, or even to close, the patient should continue the occasional use of bougies for some weeks, or we may have a repetition of the operation to perform.

An interesting case is related in Guy's Hospital Reports† of imperforate hymen, which was opened three times and closed again, in consequence of the patient not being able to use bougies or tents, At last Mr. Callaway removed the central portion altogether, and used tents, which she could only bear a short time. In this case the os uteri was covered by a membrane.

In many of these cases, if not all, there is a disposition to peritoneal inflammation after the sudden emptying of the uterus, but this may generally be avoided by great care and quietness. The patient should keep her bed and be on low diet for a week or ten days, and the bowels kept free. If inflammation set in we must have recourse to the usual antiphlogistic treatment.

There is a question relative to those cases when an imperforate os uteri, as well as an imperforate vagina, has been relieved by an operation, upon which I shall have more particularly to dwell by and bye, but to which I may just allude here. I mean the question as to whether in such cases marriage should be allowed or prohibited. The principal objection is the risk to the uterus, with which we have nothing to do at present. The state of the vagina, and the risk of its laceration during labour is all we are concerned about. Now, when the septum has been of moderate thickness, and the orifice has been fairly formed, there is every reason to believe that conception will take place, and no reason to anticipate laceration; consequently we should not be justified in opposing marriage. Again, when a greater extent of vagina has been artificially formed, considering the time that must elapse before delivery, the distension occasioned by the natural use of the part, and the great elasticity of the tissues involved, I cannot say that the risk of laceration appears to me so great as to require us to prohibit the fulfilment not only of natural desires, but of our natural duty to society. In short, putting the uterus out of the question, I do not see that imperforate vagina, when cured, ought to be considered an obstacle to marriage.

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* On the Surgical Diseases of Women, &c. p. 139.

† Vol. iv. p. 265, second series.

88. So much for *congenital* closure of the orifice of the vagina: it is rare to meet with *acquired* closure of this part, except in those cases in which the orifice shares with the vagina in the results of disease. Some few cases however have been collected by my friend Dr. Beatty.*

Dr. Ryan† met with four cases of cohesion of the labia externa at the age of puberty, so complete that only a small probe could be introduced at the superior commissure. Dr. Morrison saw a case in which the entire opening of the labia was so completely closed that there was not the smallest aperture through which the urine could escape.‡ Dr. Ashwell mentions having seen cohesion of the labia several times after puberty, and in two cases it was necessary to divide this before marriage could be consummated.§ I am not quite certain, but my impression is, that in these cases the malformation was acquired, and not congenital.

Dr. Putnam of Boston, U. S. has related a case in which he discovered that labor was obstructed by a thick membrane, having only three very small perforations, sufficient to admit of the head of a probe, which he thinks was congenital.‖

Dr. Hurd mentions one of complete closure of the orifice after sloughing, which he removed by operation.¶ And Dr. Holmes has given a similar case.**

Dr. J. M. Warren of Boston has published three cases of complete closure of the vagina, with retention of the menses, two of which were acquired, and one congenital. They were relieved in the usual way.[*]

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* Cyclop. of Pract. Medicine, vol. ii. art. Impotence.

† Medical Jurisprudence, p. 129.

‡ On Difficult Parturition, p. 221.

§ Diseases of Women, p. 722.

‖ Amer. Journ. of Med. Science, Oct. 1850.

¶ Western Medico Chir. Journal, Nov. 1850.

** New Orleans Med. and Surg. Journal, May, 1850.

Mr. Thompson has described a case in which the lower portion of the vagina was closed, but which gave way under the influence of labor pains and some digital assistance, and the child was expelled. She had had three children before.[†]

89. Thus much for occlusion, partial or complete, congenital or acquired, of the *orifice* of the vagina. I shall now proceed to the consideration of the *congenital* deficiencies of the *canal* itself. On this subject M. Rokitansky remarks that "the vagina may be totally absent or partially deficient; in the latter case there is a 'cul de sac' opening externally, or the vagina terminates blindly at a greater or less distance from the labia, or opens posteriorly into the urethra. In this instance the development takes place from both points, but an intervening portion is defective, thus forming a transition to congenital atresia.[‡] In treating of this subject I shall first notice

90. *Imperforate vagina*, in which case there is a kind of canal, the orifice is free and perfectly formed, but the canal is incomplete, being closed at some part of its course. Closed either completely, or with an orifice just sufficient to admit of the escape of the catamenia. In the latter case it is probable that the malformation will not be detected until after marriage, and then only by the impossibility of complete intromission.

In the former case, if the menses are secreted, we shall have the symptoms of obstruction and distension, with the menstrual molimen, as I have already described, but the protruding pouch or the simple obstacle will not be detected at the orifice, but at some distance up the vagina.

I had an opportunity of seeing a case of this kind through the kindness of Dr. O'Ferrall of this city. The patient was a well formed, fully developed young woman of more than twenty years of age. The mammæ and external organs were perfectly natural, and the orifice of the vagina perfect, but the canal terminated in a "cul de sac" about an inch from the orifice. Not the slightest opening could be discerned, and upon enquiry it was found that she had never menstruated, nor was the menstrual molimen more than barely marked, but what seemed contradictory, sexual desire existed. An examination "per rectum" exhibited no collection, nor indeed could we ascertain with certainty the presence of the uterus or ovaries. As the patient suffered no local uneasiness, and there was no reason to suspect accumulation, it was deemed more advisable not to attempt any operation. This case resembles the instances of short vagina mentioned by Gooch* and Davies, in one of which at least menstruation had not occurred.

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[*] Report on Obstetrics of Amer. Med. Assoc. p. 58.

[†] Lancet, Mar. 24, 1855, p. 313.

[‡] Pathological Anat. vol. ii. p. 265, Sydenham Soc. Ed.

But in some of these cases the uterus may be absent and the ovaries present, in others both are absent. In Dr. Boyd's case† the external organs were as usual, the vagina was a cul de sac about an inch deep, and the uterus and ovaries were wanting, as was ascertained after death.

In Dr. Tyler Smith's case‡ there seems to have been a slight depression, which was increased in depth by the use of the bougie. An artificial opening was carefully made in the direction of the vaginal canal, but no uterus could be detected, nor was there any escape of menstrual fluid. She stated that she had formerly had a slight sanguineous discharge from the vulva, and judging from the development of the mammæ and external organs, it appears probable that the ovaries existed.

A case was admitted into the Charing Cross Hospital Oct. 1852.§ She stated that she menstruated regularly for two years: she then had fever, and the menses never returned. The external parts were normal, and the vagina terminated about an inch from the orifice. Mr. Handcock carefully dissected upwards for three inches, and afterwards dilated the passage by bougies, but no uterus could be reached, nor was there any collection of menstrual fluid.

It is clear that when the uterus is absent there will be no secretion, even though the ovaries be present, but then we may have the menstrual nisus and other evidences of ovarian development; but if both are absent we shall have neither menstrual molimen nor sexual desire, and the organs of generation will be imperfectly developed.

91. *Absent vagina.*—The vagina however may not merely be imperforate at some distance up the canal, but it may be absent altogether, without orifice or any evidence of there being a permeable passage at any part.

Several such cases are on record. The following by M. Amussat is interesting, from its being complete and the cure being successful.

"A young lady, æt. 15, was in a bad state of health, as was supposed from the non-development of the catamenia, and was brought to Paris to consult MM. Boyer, Marjolin, Majendie, and Amussat. They found that an effort at menstruation took place every month or five weeks but without any discharge. The abdomen was swollen and the patient suffered great agony at each recurring period. On examining the parts of generation, they discovered the orifice of the urethra, but no vagina. The finger introduced into the rectum detected a large and fluctuating tumor at the upper part of the pelvis, and when a sound was at the same time passed into the bladder, the walls of that viscus and those of the rectum were found in such close apposition, that it was conceived impossible to form an artificial vagina with the knife, on account of the danger of wounding the bladder or rectum. All the medical attendants, except M. Amussat, gave up the case as hopeless, but with rare hardihood and skill, he proposed to separate the contiguous organs by traction, without using the knife. He commenced by depressing the mucous membrane of the vulva with the points of his fingers, in the situation where the orifice of the vagina ought to have been, and, the membrane giving way, he gradually advanced in the cellular interspace between the urethra and rectum—guided by a sound in the former and his finger in the latter—and retaining the ground he gained each day by a sponge tent—until at length he reached the tumor in the pelvis, which he first punctured with a trocar, and afterwards more largely opened with a bistoury, giving exit to a large quantity of dark jelly-like fluid. An additional quantity was discharged by a spontaneous opening into the rectum. The artificial os uteri was kept open for some time by a canula. The operation, of course, caused severe pain and excessive constitutional suffering, but ultimately owing to the care and skill of M. Amussat, the patient perfectly recovered, and at the time of writing the paper, was menstruating regularly, enjoying good health, and about to call into play other uterine functions. For a more detailed account of this very important case, the reader is referred to the original paper.*

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* Midwifery by Skinner, p. 45.
† Med. Chir. Trans. vol. xxiv. p. 187.
‡ Lancet, May 21, 1853, p. 470.
§ Ibid. p. 471.

In a somewhat similar case related by Dr. Coste, where the situation of the orifice of the vagina was marked by a *raphe* and in which menstruation from the age of 13 had taken place through the urethra, he introduced a director into that canal and divided its inferior parietes, extending the incision downwards to the part which ought to have been occupied by the vagina and inwards towards the uterus. At the termination of this incision internally, Dr. C. discovered the cervix and os uteri. A roll of linen at first and subsequently bougies were introduced so as to prevent adhesion, and a very satisfactory vagina was the result.

Dr. Kluyskens has published a case of this kind also† in which he operated successfully: the patient married, but did not prove pregnant.‡

Dr. Debron quotes cases by MM. de Metz, Desgranges and Dr. de Bal, in which the vagina was either imperforate or absent, without specifying them more particularly.‡

At a meeting of the Medical Society of London, Feb. 21, 1852,

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* Gazette Medicale, Dec. 12, 1835.

† Ann. et Bull. de la Societe de Med. de Gand. July, 1845.

‡ Ranking's Abstract, vol. xiv. p. 305.

Mr. Hunt related the case of a lady, æt. 30, who consulted him for stricture of the rectum. The meatus urinarius was more capacious than usual, but there was no vaginal aperture, the perineum being continued from the anus to the meatus. No trace of the uterus or ovaries could be felt, "per rectum." The clitoris and labia were normal, the mammæ well developed, and the sexual feeling admitted to exist probably in its normal degree. She had never menstruated, nor had there been any vicarious discharges. Yet she suffered no periodical inconvenience—not enough at least to attract her notice. Puberty was attained at the usual age, and the general health was good. It was the opinion of Mr. Hunt, and of another surgeon who examined her, that certainly the uterus and vagina, and probably one or both ovaries were wanting, and yet the mature female development, both of mind and body, was otherwise perfect.*

A similar case is related by Dr. Oldham, in which there was no vagina, and as far as he could judge, no internal organs of generation.† And one more recently by Dr. Braid of Manchester, in which there was no vagina, only two rudimentary cornua of the uterus, and two undeveloped ovaries, with portions of the fallopian tubes, but separate from the uterine fragments.‡ The account given by Dr. Baird is of great interest.

92. *Stricture of the Vagina.*—Cases in which the vagina is much narrower than usual are not very uncommon, but it is very rarely we meet instances of the canal narrowed as by a stricture in some part of its course, unless as the result of disease. We are indebted to Dr. E. Kennedy for the following narrative. "I lately had charge," he says, "along with Dr. Johnson, of a patient in her first labor, who had a contraction of the vagina similar to the last described (about eight or ten lines from the orifice, and to a very great degree), but which was congenital: coition was attended with great suffering, and she had been treated by the introduction of sponges to admit of this: the first stage of labor lasted for forty-eight hours; at first the finger could with much difficulty be introduced, but the vagina gradually dilated to the fullest extent, when the ergot of rye was administered, and the child expelled without further difficulty, by the uterine efforts."§ This case illustrates very well the different degrees of dilatability possessed by a congenitally contracted vagina, and one in which the diminution of calibre is the result of disease; and it is evident there must be a great difference in the treatment.

93. *Treatment.*—These cases, whether stricture of the vagina, absent

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* Lancet, March 6, 1852.

† Guy's Hospital Reports, Oct. 1849, p. 362.

‡ Ed. Monthly Journal, March, 1853, p. 230.

§ Dublin Journal, vol. xvi. p. 88.

or imperforate vagina, teach us one very important lesson, viz. that with care and skill, even these defects are not without remedy. No absolute rule can be laid down, our decision must be formed in each case by careful examination and consideration of the entire circumstances, both local and general; and further, no determination should be taken without an ample consultation. No doubt much influence ought to be attributed to the presence or absence of the menstrual molimen and of uterine distension. If we have no reason to suppose the existence of any menstrual secretion—if there be no uterine tumor in the abdomen, nor any to be felt per rectum, and moreover if the characteristics of the patient should give ground for the inference that the ovaries are undeveloped, absent, or quiescent,—I think we should act more wisely in deferring the operation. But if, on the other hand, we find a distinct menstrual effort each month, and if any uterine tumor can be detected, I think that so far from refusing our assistance on account of the risk, it will be our duty to make the attempt, supported as we are by the successful cases to which I have referred. The mode of doing so does not differ from the plan I have already laid down, except in extent. More cutting will be required, more care, especially as we get deep into the pelvis, and more time and patience in order to secure the best probable artificial passage. As I have already, and shall again describe the operation, it is unnecessary to say more at present.

94. Let us now consider the case in which the occlusion is not *congenital* but *acquired*, the result in all cases of previous inflammation and sloughing, whether caused by violence, or by the prolonged pressure of the head of the child during the second stage of labor.

There are not many cases on record in which the entire canal, from the orifice to the os uteri has been thus closed. Dr. Beck mentions a case of this kind however which was relieved by an operation.* In this case also, as in those I have formerly mentioned, the urethra had been dilated and fulfilled the office of the vagina, in coition.

A very remarkable instance of closure of the lower portion to some distance is given by Dr. Simmons.† A lady, Mrs. W., was confined in 1844, and the vagina was afterwards the seat of inflammation and excessive sloughing. She recovered, continued well, and menstruated till February, 1846. In March she consulted Dr. S., and the result of his examination is as follows: "We could perceive nothing defective or unnatural in the labia externa, clitoris, and fourchette; but on separating the labia to their fullest extent, we found the nymphæ almost entirely obliterated, and a dense fibrous structure extending from the orifice of the urethra to the fourchette, and across from the base of one labium to that of the other, blocking up the mouth of the vagina completely, and resembling more than anything in appearance, the palm of one's hand, when in an extended position. Dim tortuous lines of cicatrices were perceptible, and the whole surface of this structure presented to the touch a smooth dense elastic feel, but no opening or cavity whatever could be peceived. Impressed as we were, however, that an orifice or orifices did exist, from the circumstance of the menstrual discharge not being interrupted, we continued the examination for more than an hour, with the greatest care and minuteness, and the smallest sized probes; applied them to every point of this structure, and in every direction to its surface; also to the rugæ of mucous tissue lining the clitoris, fourchette, and orifice of the urethra, but we were unable to discover a single orifice or fissure communicating with the cavity of the vagina or uterus. No vicarious orifice could be detected in the urethra, nor were the urine or fæces tinged with blood during a menstrual period. Whilst debating what was best to be done, the patient announced that she was pregnant, and notwithstanding the doctors' incredulity, this proved to be the case, and on the 16th of November labor came on, and on examination Dr. Simmons "discovered a fulness, with great tension and pressing down of the smooth fibrous structure blocking up the vagina. The parturient pains continuing with force, the patient was placed on her back, with the thighs separated, and opening the labia externa with the thumb and finger of the left hand, I carefully divided the integuments with the scalpel to the extent of one inch, commencing the incision at the most prominent part of the tumor, and in a direct line from the orifice of the urethra to the perineum. The structure divided was about three fourths of an inch in thickness, and of a firm fibrous texture, clearly indicating that the occlusion was not the result of simple adhesion of the sides of the vagina, but of a new formation of tendinous tissue." The labor progressed favourably, the soft parts yielding easily, and terminated without accident.

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* Med. Jurisprudence, p. 63.

† Lancet, 1847, p. 651, from Philadelphia Medical Examiner.

In Mr. Newnham's case the orifice seems to have been closed in consequence of a mismanaged labor, so that connection was impossible. He divided the cicatrix and dilated the passage with bougies.*

Dr. Meigs relates a case in which complete obliteration of the vagina occurred after the first labor. Dr. Randolph made a new canal with the knife, and after some time the uterus was punctured by a trocar, and exit given to the menses. The patient recovered.

Dr. E. Kennedy has noticed a curious fact, that in many of these cases when the occlusion is secondary and complete, so that nothing can escape, there is no secretion, and consequently no accumulation, although the menstrual symptoms occur each month.

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* Ranking's Abstract, vol. xii. p. 259, from Prov. Med. and Surg. Journal, Sept. 4, 1850.

† Philadelphia Practice of Midwifery, p. 360.

95 In the canal itself we may meet with rough callosities, with cicatrices of irregular form, or a circular or spiral band of new deposit, narrowing the vagina to any degree, rendering the canal irregular and tortuous, or nearly closing it.

Again, adhesion may take place between the sides of any part of the vagina, sometimes dividing it into two chambers, sometimes leaving a large cavity above and closing it below, sometimes having a small perforation through which menstruation takes place, in others being entirely impervious.

Lastly, in some cases, the vagina is adherent throughout the whole or nearly the whole extent, closing the canal entirely.

To a certain extent the ill consequences are in proportion to the amount of rigidity of the obstruction. If it be complete, of course if the menses are secreted, they will be retained, and there will be accumulation and distension, but, as Dr. Kennedy observes, they are not always secreted. If the canal be pervious, menstruation will take place as usual without difficulty, and generally with no inconvenience or suffering.

In almost all cases sexual intercourse is either inconvenient, difficult, painful, or impossible, and yet in no case when the menses escape can pregnancy be pronounced impossible; nay, it has occurred, as we have already seen in other cases, when no perforation could be discovered: so that, in expressing ourselves doubtfully, we must be careful not to go beyond the facts on record.

One can hardly help regretting this possibility, for however distressing such cases may be, under ordinary circumstances, the occurrence of pregnancy and labor fearfully increases our anxiety, and adds a new cause of difficulty and danger to the patient. Judging from the records of the past, we find that the slighter cases will sometimes yield to the pressure of the child's head, aided by bleeding and tartar emetic: other cases, if left to nature, terminate, and not unfrequently, in rupture of the vagina and uterus.

In all cases, when the obstruction is considerable, an operation may afford relief, though it is not without danger at the time, and it sometimes involves inflammation of a serious character afterwards.

96. These cicatrices, callosities, or adhesions are in all cases the effect of inflammation and suppuration, which may be the result of accidental injury, of attempts to procure abortion, of disease, of pressure by the head of the child in a prolonged second stage, or of the use of instruments. It is worthy of mention that the altered condition of the vagina may occur after conception, during pregnancy, and only be discovered at the time of labor.

A collateral result of this sloughing, which not unfrequently complicates these cases, is perforation of the bladder and rectum, adding much to the distress, and in some cases rendering the treatment less fully successful.

97. These remarks I think will be fully confirmed by the cases I shall now adduce, which, though sufficient for my purpose, are far less numerous than they might have been.

Dr. Barrett of Kentucky has related a case in which rupture of the uterus took place during labor, in consequence of extensive adhesion of the vagina.*

In Dr. E. Kennedy's able paper† I find that in the first case sloughing following delivery by instruments after a labor of thirty hours. The obstruction extended from a short distance within the vagina up to the os uteri, "at least three inches and a half." The adherent surfaces were cautiously divided with the knife, the os uteri perforated, and care taken that adhesion should not occur again. Three weeks afterwards the patient menstruated, but there had been no accumulation during the eight months previously. In case 2 the vagina had been closed three months, except a small aperture anteriorly, capable of admitting a small quill. The obstruction was divided, the os uteri punctured, but no accumulation had taken place. Candle bougies were used for some time, as the canal showed a disposition to contract. Case 3. The vagina was completely closed, the menstrual molimen recurred every month; a tumor could be felt "per rectum," and finally, the right labium became swollen and evidently contained fluid. It was punctured, and menses escaped. Finally, the vagina was opened up to the os uteri, and treated by tents and candle bougies. Case 4. The sloughing followed tedious labor and penetrated the bladder. The vagina was divided by adhesion into two chambers. She became pregnant, and at the time of labor it was necessary to divide the adhesion; peritoneal inflammation followed, and she sank. Case 5. The vagina was contracted superiorly, and there was a large opening into the bladder. A plug of plaster of Paris was used with benefit. Case 6. The vagina contracted by cicatrices superiorly, with perforation of the bladder. The plug afforded relief. Case 7. After instrumental labor, the vagina became adherent at its upper part, with perforation of the bladder. The os uteri projected into the bladder, and through this viscus the catamenia passed. Case 8. After instrumental labor, the vagina was contracted by a thick hard ring, about an inch from the external orifice. In two other cases Dr. E. Kennedy mentions that the orifice of the vagina was of the natural size, but "about eight or ten lines within it, the canal became suddenly narrowed, in both instances being pervious towards the recto-vaginal wall." He also quotes a case by Dr. Charles O'Reilly, in which the sides of the vagina became adherent to the extent of an inch, after the removal of a polypus. The adhesion was divided, the menses liberated, and by the use of candle bougies the patient was restored.

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* Drake's Western Med. and Phys. Journal, vol. iii. p. 206.

† Dublin Journal, vol. xvi. p. 93. et seq.

Dr. Doherty has published two cases in which the state of the vagina was not known until the time of labor.[*] In the first, a thick band surrounded the upper part of the vagina, materially diminishing its calibre, and offering such resistance that the uterus was ruptured. In case 2 a firm membranous expansion existed an inch and a half from the external parts up to the uterus, reducing the calibre of the vagina so much, that only the point of the finger could be introduced. She was pregnant, and at the full time the shoulder presented. The structure was divided, evisceration performed, and the child extracted, but phlebitis followed, and the patient died.

Dr. Trask of W. New York, has published a very valuable essay, in which he has collected 26 cases not included in this chapter. In fifteen cases it was stated to be the result of former severe labor; in one it arose from attempts to procure abortion, in another from vaginitis during childhood; in a third it was congenital. In Lisfranc's case it arose from neglected venereal ulcers. Of those cases in which there was no active interference: in two, the obstructing bands were rent by the pains; in three, the vagina dilated; and in one, the patient was delivered by the forceps. They all recovered. Four cases yielded to venesection. Three cases were let alone and they died, as did one in whom the attempts to open a passage failed. So that of eight cases left entirely to nature, three were fatal. In four cases, rupture of the uterus or vagina occurred. Twelve cases recovered after incision of the obstructing membranes and tissues. In one only did death occur from rupture of an old cicatrix. Dr. Trask concludes that "our cases shew that while abandonment to nature is attended by great risk, division of the structure by the knife is almost perfectly safe." And again, "the general safety of incisions, with the risk of dangerous laceration if left alone, must certainly encourage an early resort to the operation."[†]

Mr. Square of Plymouth has related a case[‡] in which the vagina was quite closed about an inch from its orifice, and forming a sac above the adhesion. He perforated the cicatrix with a probe, and afterwards enlarged the opening, giving exit to an accumulation of catamenia. The passage was maintained by the use of bougies.

Dr. Oldham has recorded a very interesting case[§] in which sloughing occurred after instrumental delivery, leaving the vagina so contracted as to admit only the first phalanx of the index finger. At one part the cicatrix projected into the vagina with a sharp edge. The patient being pregnant, and the condition of the parts being such as to involve much danger if labor were postponed to the full time, Dr. Oldham first divided the cicatrix, and then induced premature labor with perfect safety to the mother.

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[*] Dublin Journal, vol. xxi. p. 65.

[†] American Journal of Med. Science, July, 1848. p. 114.

[‡] Dublin Journal, vol. xxvi. p. 156, from Prov. Med. and Surg. Journal.

[§] Lond. Med. Gazette, 1849, vol. ix. p. 45.

In M. Danyau's case,* the vagina was so far closed as only to admit a female catheter, in consequence of an injury when a child: in Dr. Devisac's† case, it was the result of a severe labor; in both pregnancy occurred, and labor was terminated by the division of the adhesion.

In Dr. M. Muro's case‡ the vagina seems to have become adherent after severe labor, up to the cervix uteri, but not absolutely closed, as she became pregnant. Abortion occurred at the fifth month, and Dr. M. found it necessary to open the vagina, and also to craniotomize the fœtus. The patient recovered, and care was taken to keep the canal pervious.

In Dr. Purefoy's case§ the vagina was contracted by a rigid circular cicatrix, which prevented the finger reaching the uterus, but which he succeeded in dilating.

In Dr. Sawyer's case,‖ which he kindly afforded me the opportunity of examining, the occlusion was about two inches from the external orifice, and was apparently quite complete. The patient was in labor, and it was necessary to divide the structure, which was from four to six lines in thickness, and to perforate the child's head before delivery could be effected. The patient ultimately recovered.

Dr. Robert L. M'Donnell of Montreal has recently recorded a very successful case. After a tedious labor, very extensive sloughing took place, by which the meatus urinarius, clitoris and nymphæ were destroyed, and in the process of healing the vagina was closed by a hard grisly cicatrix, leaving only a small opening superiorly, through which both urine and menses escaped. Dr. M'Donnell first removed a triangular wedgelike flap from the orifice of the vagina, then dissected up the vagina, and cutting through a thick membranous septum, exposed the cervix uteri. The urethra had been entirely destroyed, and there was a transverse vesico-vaginal fistula. The vagina was prevented from closing, and the wounds healed completely. At a subsequent period Dr. M'Donnell added greatly to her comfort, by inserting a ligature into the borders of the fistula, so as to secure a diminution of its size.¶

To these cases, I could add several from my own experience, was not the list long enough. None however possessed peculiar interest: in some the cicatrix was circular or spiral, and prominent: in others the calibre of the vagina was reduced generally, or the vagina was divided into two chambers with a small perforation. In some the finger could pass, so as to detect the os uteri; in others this was impossible. Some of the patients were middle-aged women, and the occlusion was comparatively recent; others were old cases of long standing; in none did pregnancy occur after the occlusion. All were traceable to sloughing after previous labors. Some I relieved by the use of bougies, in others I failed, but in few did it appear necessary or wise to use the knife. One case only shall I mention more particularly, as it shows that occlusion may take place at the upper part of the vagina with very little deformity. Very recently I was consulted by a patient who had suffered from sloughing of the vagina after delivery. Her husband died and she married again, without any inconvenience or incapacity for fulfilling her duties as a wife. On examination I found a vagina of the usual calibre and about three inches long terminating in a cul de sac, behind and below the upper end of which I could feel the cervix uteri. By introducing one finger into the rectum and another into the vagina I could seize the cervix between them. With the speculum I could see the cicatures plainly, they were tolerably soft to the touch, but I utterly failed in introducing the smallest-sized bougie or probe to the os uteri, and yet the patient menstruated regularly and with little difficulty. The question I was required to solve was the *possibility* of conception. I decided in favor of the possibility but against the probality, which the cases I have cited justify, I think. I recommended that the passage to the womb should be opened, which could have been done very easily, but the patient preferred remaining as she was.

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* Gazette Medicale, No. 20.

† New Orleans Med. Journal, April, 1845.

‡ Ranking's Abstract, vol. iv. p. 187.

§ Ibid. vol. viii. p. 304.

‖ Dublin Journal, N. S. vol. xxii. p. 484.

¶ Med. Press, July 14, 1852, p. 22, from Canadian Med. Journal.

98. *Prognosis.*—Our prognosis ought to be very guarded in all cases except where the obstruction is very slight indeed. Independent of pregnancy, the operation for re-opening the vagina is not unfrequently followed by inflammation not merely of the parts themselves but of the peritoneum; and if the patient be pregnant, we have not only this danger but that of rupture of the vagina and uterus to contend against. The latter risk is incurred whether the patient undergo the operation or not, if we do not see her until labor, but it is certainly less in those in whom the operation is performed.

99. *Treatment.*—Very great care and judgment must be exercised in determining the line of treatment. Much will depend upon the age and constitution of the patient, the amount of occlusion, its situation, the existence of pregnancy or of labor.

1. If we are consulted by a patient whose vagina is contracted to a moderate extent at the orifice, or in any part of the canal, and if the cicatrix be soft and distensible, we may probably succeed in dilating it sufficiently, by prepared sponge tents and wax candles or bougies.

2. If the contraction be greater, and the cicatrix hard and project-

ing, it will probably be necessary first to divide the obstacle with the knife, and afterwards to use the sponge tent and bougies.

In these two classes of cases I assume that the occlusion, though partial, is an obstacle to sexual intercourse, and may be to delivery, and therefore likely to occasion distress, or difficulty, or danger. If the patient were a widow, or advanced in years, I do not think it would be worth the risk to remove an obstacle of this kind.

3. If however any portion of the canal be completely closed, it is clearly our duty to re-open it in all cases, except in extreme old age, as accumulation may occur; and even if it be nearly closed, although this danger be avoided, yet the immediate inconvenience and prospective risk renders the operation very desirable.

In this operation there are two dangers especially to be avoided, viz. wounding the rectum posteriorly, or the bladder and urethra anteriorly, and for this purpose, during the operation, a catheter should be kept in the bladder, and a finger frequently passed into the rectum, so that at every advance we may ascertain if we are going too near either viscus. On this account also, it appears safer to make the incision within the vagina laterally, rather than perpendicularly. At the external orifice, if that be closed, it must be made perpendicularly from just below the urethra to the fourchette, i. e. to the full extent of the normal opening.

During the operation the patient should be placed upon her back at the edge of a table, with her feet resting upon chairs, and the limbs widely divaricated. The labia are to be held apart by an assistant, and having fixed in our mind the exact situation of the urethra, bladder, and rectum, an incision is to be made either perpendicularly or laterally, to a sufficient extent to allow ample room, but to a very moderate depth. After the first incision the walls of the vagina may be held separate by means of broad spatulæ, so as to allow of sight to a certain extent, and occasionally we may be able to make use of a small glass speculum.

Each incision should be of slight depth, for we cannot be too cautious, and after each the point of the finger or the handle of the scalpel should be used to separate the adherent parts, and at each step an examination made "per rectum." Thus by degrees, partly cutting, partly tearing, we make our way until we arrive at the projection of the cervix uteri: we must then ascertain that the os uteri is pervious, by passing a catheter into it, or if not we must make it so, with the point of the knife or trocar.

In this short description I have assumed that the vagina is closed from its orifice to the os uteri; if not, less cutting will be necessary, but the mode of operating will be the same.

It is very desirable that the space gained by the operation should be ample, as there is a great tendency to contract afterwards, but it is unnecessary and dangerous to run into the other extreme.

After the operation, a pledget of lint soaked in oil should be introduced into the vagina, beyond the incision, so as to prevent the reformation of the adhesion, and this should be changed twice a-day. A bougie or catheter should also be passed into the os uteri occasionally, to make sure of its permeability.

Let not the operation be considered too lightly: it involves both difficulty and danger. "The thinness of the texture to be divided," remarks Dr. E. Kennedy "the danger of wounding the bladder on one side or the rectum on the other, or getting into the peritoneal cavity above; the depth of parts in which the operation has to be performed, and the confined space afforded to the operation, render it as difficult and dangerous as any operation that can by possibility be undertaken."* I beg to refer the reader to the minute account given by Dr. E. Kennedy of his method of operation.

When the local inflammation and irritation has subsided, it will be time to commence the use of wax candles or bougies. They should be introduced up to the cervix uteri, twice a day and allowed to remain for some time. We may commence with one of moderate size, and gradually increase until the patient can bear one an inch and a quarter or an inch and a half in diameter. If there is much disposition to contract in the new-found vagina, it will be useful to introduce a piece of prepared sponge, which by its gradual swelling will slowly and effectually dilate the canal. The use of bougies should be continued, at least occasionally, for some time after the parts are quite healed.

But there is another and greater danger to be guarded against, as Drs. Kennedy and Doherty and others have shewn, and that is, the subsequent extension of inflammation to the peritoneum. Dr. Kennedy's plan, and I do not know a better, is to commence at once with small doses of mercury, not sufficient to produce salivation, but so as to prepare the constitution for its more rapid influence, if necessary. When inflammation does occur it is to be treated in the usual way, upon which I need not enter at present. I need hardly add, that the patient must be kept in bed and on low diet until all risk is over, and that the bowels must freed by enemata.

4. As to those cases which are complicated with perforation of the bladder or rectum, it will require great prudence on our part, lest in enlarging the structure we enlarge the fistulous opening. If the patient be not pregnant, and the contraction occasion no serious inconvenience, perhaps Dr. E. Kennedy's plan of taking a mould of the vagina, and forming a plug, so as to restrain the discharges, will be the best.

If much distress or inconvenience exist, we may have recourse to an operation, but it will be with less probability of success.

But if the patient be pregnant, we must leave out of consideration the state of the bladder, and regarding only the state of the vagina and its influence upon future labor, treat the patient according to the rules I am about to lay down.

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* Dublin Journal, vol. xvi. p. 92.

Suppose then, we are consulted about this condition of the vagina, the patient being pregnant. The first question is whether we ought to induce abortion or premature labor, or simply try to relieve the contraction and leave matters as they are until labor comes on. Dr. Oldham, as we have seen, induced premature labor successfully.

In one of Dr. Doherty's cases, the question was debated and finally decided in the negative, but after reading the fatal termination I confess I am not satisfied that the wisest course was adopted.

We have already seen that in a considerable number of cases, rupture of the uterus was the result of non-interference, even when the obstacle was only a band of cicatrix in the vagina, and that there is a very serious risk of peritonitis in cases at the full time, even when they escape rupture.

Taking all these points into consideration, I have no hesitation in coming to the conclusion that there are some cases in which the induction of abortion or premature labor, is far preferable to allowing the patient to complete the full term of gestation. And these cases are those in which the passage is so much contracted by hard bands, or by firm irregular cicatrices as to render dilatation impossible, and many of those cases also in which the vagina is apparently closed by adhesions.

But it may be asked whether it might not be better in such cases, first, to try whether, by the operation and subsequent dilatation as already described, the morbid condition of the vagina could not be remedied so far as to afford a chance of saving the child without too much risk to the mother?

I believe that this question ought to be answered in the affirmative, and that our best plan in all such cases is, first to try whether the occlusion can be remedied. If it can, we have still the alternative, and may decide for or against premature labor according to all the circumstances of the case. If it cannot; if the contraction be great and irremediable, then I do think that inasmuch as the infant has little or no chance at the full term, and the mother will incur greater peril, it would not only be justifiable but our duty to bring on uterine action sufficiently to free the mother from risk. If we can wait until the infant is viable so much the better. I must not omit to point out the possibility that the operation may bring on premature labor, which must therefore enter into our calculations.

The operation may be performed by puncturing the membranes through the os uteri, and the exhibition of the ergot of rye afterwards. In some cases it is difficult to reach the os uteri, and it may be necessary to use the knife to free the passage for this purpose. Or the vaginal douche may be tried, with warm water or warm and cold alternately, and it has this peculiar advantage, that the water will penetrate wherever there is a perforation, and we shall escape the use of the knife. It is possible, however, that the douche may not always induce labor, in which case we must puncture the membranes and give ergot as I have said.

5. Let us next consider the treatment of those cases in which we know nothing of the condition of the vagina until labor has commenced.

Here the whole question turns upon the amount of the contraction, and upon its distensibility; in other words, upon the resistance likely to be offered to the passage of the head of the child.

If the cicatrices are not extensive, and do not contract the vagina much, we may hope that the natural efforts may overcome the resistance, for Denman observes, "Amid a great number of cicatrices in the vagina, I have not met with one example in which they were able to withstand the pressure of the head of the child, if the pains were of the customary strength. The labors have indeed been prolonged, but they have terminated favourably." This occurred in two cases quoted by Dr. Trask, and in Dr. Purefoy's case.

There are means, too, of facilitating the distension by relaxing the tissues. Drs. Hamilton, Davies, and others have succeeded by large blood-letting, and we are indebted to Dr. E. Kennedy for the first employment of tartar emetic in such cases, which appears to be as useful as bloodletting, with far less cost to the patient. If, therefore, we decide that the obstruction does not call for more active interference, we should have recourse to the judicious and timely use of these remedies.

But supposing that the contraction is considerable, that a short circular or spiral ring exists, or bands, and that a greater extent of the canal is involved, it will be most unadvisable to leave the case to nature. "The danger to be apprehended," says Dr. Doherty,* "from strictures existing in the vagina at the period of labor, arises not merely from the diminished space that remains for the transmission of the fœtus, but also from the changes which inflammation has wrought in the adjacent structures." "The consequence of these changes is, that the canal is less able to bear a forcible dilatation, and if the narrowed portion be permitted to delay the fœtal head too long, a rupture of the vagina above it is very likely to occur soon, if no breach of surface already exist. But if even a small opening into an adjacent cavity be already formed, such opening is very likely to be increased into a rent, which throws both chambers into one, forming one of the most lamentable calamities which can befall a woman."

That this graphic description is true, no one can doubt, and in prospect of such a calamity—the lifelong injury, or the death of the mother, with the death of the child, as the necessary consequence, there can be no hesitation about the propriety of dividing the bands, cicatrices, or adhesions, before much delay has occurred. Even then there is some danger of our incisions being converted into lacerations, but certainly the chances of escape to the mother are increased.

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* Dublin Journal, vol. xxi. p. 70.

If, after the incisions and the use of tartar emetic the obstacle does not yield, we must have recourse to craniotomy, inasmuch as it is scarcely possible to save the child unless the mother be delivered without rupture of the uterus, and as the child, thus virtually lost, is the great obstacle to our saving the mother, we need have no hesitation in removing it.

Lastly, when the vagina is at any part, or for any distance, completely, or all but completely closed, no one can doubt the necessity and propriety of using the knife for the removal of the obstacle. It may be that after the incision the labor may be completed easily and naturally (as in several cases I have quoted), with safety to the mother and child, or it may be that sufficient resistance will still remain to compromise the safety of both. If we are quite satisfied that this is the case, there is but one resource, viz. craniotomy, for I need not say that in no case of cicatrised vagina are the forceps admissible.

The subsequent management of all these cases will demand great care and watchfulness. The risk of peritoneal, as well as vaginal inflammation is imminent, and will require most judicious treatment. Rest, absolute quiet, warm fomentations to the vulva, vaginal injections of warm milk and water, with small doses of mercury, should be used immediately, and if peritonitis do set in, it must be combatted in the usual manner, by venesection, leeches, mercury, &c.

If the patient recover, our attention must be directed to prevent a recurrence of the contraction or adhesion of the vagina.

100. The cases I have quoted constitute a most appalling commentary upon the necessity of prophylactic measures in all cases of labor prolonged in the second stage, or when instruments have been used. In all cases in which inflammation and sloughing have followed labor, of whatever kind, and in all such cases as those of which I have been speaking, we should never forget the chances of deformity resulting, and never omit the most sedulous attention to the state of the vagina.

At first, whilst the inflammation is acute, soothing measures only must be adopted, such as fomentations and poultices to the vulva, repeated vaginal injections of warm milk and water, and perhaps a few leeches. A pledget of lint soaked in oil should be passed far up the vagina, so as to keep the sides separate and prevent adhesion.

When the inflammation has subsided, and the soreness disappeared, the oiled lint may be increased into a roll, so as to keep the vagina distended to its full size, or a bougie or wax candle, or sponge may be introduced twice a-day, and allowed to remain for some time.

An examination should be made occasionally to ascertain whether there is any disposition to irregular or excessive contraction, and the precautions must be continued until we are satisfied that the canal is healed, and of its natural form and size.

CHAPTER II.

VAGINITIS. VAGINAL LEUCORRHŒA.

101. Inflammation of the mucous membrane of the vaginal canal or vaginal leucorrhœa, constitutes one of the most common affections of women, and for various reasons is a very troublesome one. It has recently, especially the chronic form, been made the subject of careful and minute investigation by Dr. Tyler Smith, and whilst he has fully established the ancient division into vaginal and uterine leucorrhœa, he has elucidated by microscopical enquiries, the different varieties which have been practically observed. The disease may either be acute or chronic, and the distress will vary accordingly. We shall consider these forms separately.

1. *Acute vaginal leucorrhœa, or acute vaginitis*, is by far the least frequent of the two, but the most painful. It rarely occurs in unmarried females, or in elderly persons; the discharge to which these are most subject being either chronic vaginal, or uterine leucorrhœa. The cases I have seen have been chiefly in newly married women.

Causes.—The principal causes are cold, violence (as in rape), excessive sexual indulgence, exertion soon after delivery, high living, or inflammation spreading internally from the vulva. The habits and general conditions of the patient will of course influence the operation of any of these causes.

102. *Symptoms.*—The patient first perceives a sense of heat, soreness, and fulness in the vagina, varying according to the amount of inflammation, and sometimes accompanied with itching of the external parts. These symptoms increase after a time, and pain, smarting, a feeling of weight and bearing down are added, together with a sensation of tightness, as though the mucous membrane of the vagina were swollen. If the attack be violent, weight in the lower belly, and pain extending down the thighs may be experienced, and the irritation may even be extended to the bladder. At first there is no discharge at all, but in the course of a day or two, the patient notices a more or less profuse flow of a thin, colorless, acid, and occasionally acrid fluid, which in a little time becomes whitish, greenish, or yellowish, and of much thicker consistence, and without any diminution in the quality until the attack subsides.

Dr. Tyler Smith has shewn that it consists of epithelial scales in an acid plusma. The whitish or cream color may be owing either to an excess of epithelial scabs, or to the reaction of the alkaline secretion from the canal of the cervix upon the acid vaginal secretion. After the inflammation of a certain intensity has continued for a time we may find a mixture of pus globules with *debris* of epithelium. The local distress is considerably relieved when the discharge is fully established.

If an *examination* be made at the commencement of the attack, the calibre of the vagina will be found to be diminished, and the mucous membrane to be swollen and puffy. The heat and tenderness are considerable, but no breach of surface can be detected by the finger or speculum. M. Marc d'Espine examined 100 cases of this disease; and the principal alterations were those of color. In some the membrane was pale, in others rose-colored, in others uniform red, and in others spotted or patched with red.

The discharges were as follows in the 100 cases examined:*

	Muc. Mem. pale.	Muc. Mem. rose.	Muc. Mem. red.	Muc. Mem. spotted or patched.
No discharge	24	12	3	0
White creamy	11	10	8	6
Caseous	1	2	0	0
Puriform	5	5	7	6
	41	29	18	12

In most of the cases I have examined, the vaginal portion of the cervix uteri was but slightly if at all affected; occasionally the labia pudendi were swollen, and still more rarely the glands of the groin were enlarged. At an advanced stage of the disease, the swelling of the mucous membrane will be found to have subsided, and the heat and soreness to be much reduced. The most prominent feature at this period is the profuse acid discharge.

If the attack is but slight and temporary, no constitutional symptoms will be developed; but if severe, the patient will suffer from rigors, heaviness and langour, pain in the back and round the loins, head-ache and thirst, with a quick pulse and a loaded tongue.

These general symptoms, as well as the local ones, are, however generally mitigated by the establishment of the discharge.

103. *Terminations.*—In some cases, when treated promptly and judiciously, the attack terminates in resolution, evidenced by the equable subsidence of all the symptoms. Its duration may vary from a few days to a month. But, more frequently, the local distress and most of the general symptoms (if such be present) having subsided, but the discharge continuing, the disease glides gradually into the chronic state.

104. *Diagnosis.*—The distinction of this disease from *gonorrhœa* is

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* Archiv. Gen. de Med. Feb. 1836.

according to all authorities upon the subject, extremely difficult. Sir C. Clarke seems to consider it impossible, and probably it may be so in many instances.

If the observations of Donnè are borne out, as to the presence of animalculæ in gonorrhœal discharges, this would be a most valuable diagnostic mark. Those who agree with M. Ricord* as to the specific character of the small erosions of the cervix he has described, will of course terminate their doubts by the speculum; but as I think the point is by no means proved as yet, I confess to feeling the great difficulty of deciding by local symptoms only in many cases.

The discharge from the urethra (though it does occasionally occur) is much less frequent in leucorrhœa than in gonorrhœa. Out of two hundred cases of the latter kind, Ricord states that eight in every twelve had the urethra so affected. The glands of the groin are also much less frequently enlarged in simple acute vaginitis. In addition, the moral character of the patients will afford a certain amount of assistance to us in coming to a decision.

The condition of the vagina and cervix uteri will at once distinguish it from *acute uterine leucorrhœa.*

The *consequences* of an attack of acute vaginitis are seldom of much importance; if it be neglected, narrowing of the vagina, or adhesion of its sides may possibly take place; but if discovered in time, they are easily remedied.

105. *Treatment.*—If the patient be of a plethoric habit, and the inflammation intense, a proportionate quantity of blood should be taken from the arm, or leeches applied to the vulva, followed by fomentations.

In milder cases, bran poultices or fomentations may be sufficient, with vaginal injections of warm water at first, and subsequently of a solution of the acetate of lead. A hip bath occasionally will be found a powerful adjunct in abating inflammation. In some cases I have tried small doses of tartar emetic with apparent benefit.

The patient should be confined to the horizontal position as much as possible, and saline purgatives given as often as may be necessary. The diet should be spare, and all possible causes of aggravation avoided. In the majority of instances, an early and diligent use of these means will cure the disease; if not, it will probably assume the chronic form, which we shall next consider.

106. *Chronic vaginal leucorrhœa*, or *chronic vaginitis.*—This is one of the most common diseases to which females are obnoxious, few escaping an attack of it at some period of their lives; nor is this surprising when we consider the variety of local stimuli to which the vagina is exposed, in addition to those more general causes of disease,

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* Ricord on the employment of the speculum in females affected with venereal diseases, &c. Mem. de l'Acad. 2 vols. 1833.

internal as well as external, which act upon it in common with other mucous membranes. The period of female life during which it is most frequent is, as we might expect, from the establishment of the menstrual function until its cessation. It does however sometimes, though rarely, precede the appearance of the catamenia, and although it may occur subsequent to their cessation, the majority of cases in which this is stated to have been the case were, I have no doubt, examples of uterine leucorrhœa.

From the constitutional peculiarities of some patients, (and very often induced by the disease itself) the discharge has been attributed to relaxation and debility. If, however, the local symptoms be carefully examined and the history traced back, we shall I think arrive at the conclusion that the disease is one of a low degree of chronic inflammation accompanied with excess of secretion. It is not improbable that the chronic form may always be a sequence of the acute, although from the brevity and slight intensity of the former it may have passed over unnoticed.*

Sir C. Clarke has described a species of excessive mucous discharge, which he believes to be independent of 'increased action,' and which he attributes to the formation of an excessive quantity of blood from high living and indolent habits. The uterus sympathising with the general plethora, secretes an unusual quantity of mucus and catamenia.†

Causes—These are either *local* or *general:* among the former may be enumerated excessive coition, frequent child-bearing, irritation from foreign bodies in the vagina, (as for example, a pessary,) or in the neighbouring parts, (as the rectum, &c.) displacements, morbid growths, &c. Among the latter causes we find cold, especially in spring and autumn, alternations of wet and dry weather, too free living, the excessive use of spirits or wine, peculiar temperament, sympathetic irritations, certain states of general derangements of the health, &c.‡

107. *Symptoms.*—The patient experiences a colorless or whitish discharge from the vagina, varying in quantity, and of a bland character generally, having an acid reaction. In some cases it has been found of a brownish color and acrid, excoriating the edges of the vulva.§ There is very little increase of heat, and seldom any pain or tenderness. I have never known the inguinal glands to be affected. If the discharge be very profuse, considerable weakness may be induced, with great weariness after exertion. There is generally some complaint of aching in the back and loins, and after the discharge has continued long, dyspeptic symptoms appear.

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* Dewees, Diseases of Females, p. 67.

† Diseases of Females, vol. i. p. 301.

‡ Sir C. Clarke, Diseases of Females, vol. i. p. 163.

§ Siebold's Frauenzimmerkrankheiten, vol. i. p. 579.

A recent writer has enumerated among the symptoms or consequences of leucorrhœa, disturbance of the menstrual functions, generally its too frequent recurrence, and is at a loss to explain them.* If he had not rejected the distinction between uterine and vaginal leucorrhœa he would have been at no loss to do so, for, according to my experience, it is only when the uterus is involved that this and the other serious symptoms attributed to leucorrhœa occur.†

A question has been debated as to whether leucorrhœal discharges (either uterine or vaginal), not venereal, can give rise to gonorrhœa and sores in the male, and opposite opinions have been maintained. John Hunter, a very high authority, observes, "Such cases, as far as I have seen, have only been in the form of gonorrhœa; they have not produced sores in the parts, nor so far as I know, do they even produce constitutional diseases." Other writers have, however, maintained the contrary, and the question is by no means easy of solution. It would appear, at least, that the leucorrhœal discharge may excite considerable irritation in the mucous membrane of the urethra of the male. I have seen three cases of a thin mucous discharge in males, who positively denied having had, for some years previously, intercourse with any other females than their wives. The wives denied most strenuously the accusation of incontinence, and certainly exhibited no symptom whatever of a gonorrhœal character.

There are some cases related by Mr. Eagle, of sores on the penis produced by connexion with females labouring under leucorrhœa only. I may quote one. "Obs. 5. A married gentleman, æt. 33, of sedentary habits, is frequently the subject of indolent ulcers on the prepuce, which are at times long in healing, if no mercurial be used. His wife is healthy in appearance, although the subject of leucorrhœa."† There are other similar cases related, and some will shew that sores may be caused by connexion during menstruation. The conclusions that Mr. Eagle draws are—"First, that a modest female labouring under leucorrhœa, may inflict both a gonorrhœa and sores. Secondly, That as the more severe the cause, the more intense the effect, it follows,—Thirdly, *and principally, that the same discharge*, occurring in a female, under the continued and combined excitement of venery and drink, would possess so much the more acrimony, that it would produce venereal gonorrhœa or true chancre." Of course, these cases do not prove the point, as so much depends upon the veracity of both parties, who may be supposed to have an interest in concealing the truth. Whether vaginal or uterine leucorrhœa would be more likely to excite such an irritation in the male organs, I am unable to say.

Diagnosis.—The examination of the discharge by the microscope, which will shew only epithelial debris or scales; the acid character and the absence of any discharge from the os uteri, as shewn by the speculum, are the most striking characteristics of the disease. It may be distinguished, 1. From the *acute stage of gonorrhœa*, by there being less local irritation, by the discharge being colorless or whitish, by the absence of scalding on passing urine, and of the discharge from the urethra.

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* Dr. Beck, London Journal of Med. Aug. 1852, p. 716.

† Lancet, July 9th, 1836, vol. ii. p. 492.

2. From *uterine leucorrhœa*, by the discharge being unconnected with irritation of the uterus, by its not increasing before or after each menstrual period, and by the minor degree of constitutional suffering.

108. *Treatment.*—It is very rarely, indeed, that depletory measures are necessary, and in such a case a few leeches to the vulva, or cupping the loins, will suffice. If the patient be weakly or cachectic, tonics, either vegetable or mineral, ought to be given. Opium in small doses is said to have been useful from its power of diminishing secretion.

Balsam of copaiba has been recommended, and in many cases I have found it very useful.

Dr. Cless of Copenhagen, and others, have prescribed cubebs, with benefit. "Copaiva balsam, compound tincture of benzoin, and cubebs, are the principal medicines. I would advise to administer them according to the effect produced. A pretty full dose of the copaiva I consider to be about four drachms in the course of the day; of the compound tincture of benzoin, an ounce; and one or two ounces of the cubebs daily, more or less according to the effects produced."*

Tincture of cantharides is recommended by Dr. Dewees,† and many other remedies by different writers.

If the constitution be delicate, it will be necessary, for the cure of the leucorrhœa, to attend carefully to this point. For this purpose, tonics, vegetable or mineral, should be given, and the diet improved. "In the leucorrhœa from constitutional debility or disordered health, Dr. Locock observes, the usual remedies for restoring the vigor of the frame are required. Tonics of every description are admissible, according to the circumstances of the case; but those containing or combined with the mineral acids have most efficacy. The vegetable bitters, or the sulphate of quinine, or the bark itself, may be given three times a day, combined with from ten to twenty drops of the diluted sulphuric acid, or double that quantity of the old vitriolic elixir."

But by far the most powerful remedies are astringent solutions thrown up the vagina, by means of a syringe or clyster-pipe and bladder. Several of these may be used with advantage, but those which I have found the most effectual are a decoction of oak-bark, with or without alum, a solution of alum in water (ʒi. to ℥iv.), of sulphate of zinc (ʒi. to ℥iii.), or of the nitrate of silver (gr. x. to ʒss. in ℥iii.). These proportions are those I generally prescribe, but they will require to be modified according to circumstances. The injection should be administered slowly, and in the recumbent posture: it rarely causes any pain, and most frequently diminishes the discharge immediately. It should be used twice a day, and the strength gradually increased if the disease continue long. It may be as well to give the first two or three injections tepid, subsequently they may be used cold.

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* Dr. Blundell, Diseases of Women, p. 158.

† Diseases of Women, p. 78.

Dr. Huston, of Philadelphia, speaks highly of an injection of the oil of turpentine, suspended in mucilage of flax-seed or elm, used two or three times a day.

The vaginal discharge being acid it has occurred to me lately to try the effect of alkaline injections, and I have found that a solution of the carbonate of soda or potash (ʒss. to ℥iv.) has proved very successful.

A cold shower bath occasionally, or the 'douche' to the loins, will be found very useful. The patient should be much in the open air, and should take sufficient exercise without fatigue.

All circumstances which may keep up the disorder, or reproduce it, must be cautiously avoided. The diet should be properly regulated, as it has considerable influence upon the disease.

Although this plan of treatment will be successful in the majority of cases, yet it must be confessed that we occasionally meet with some which resist all our efforts.

It occasionally happens that, after the disease has been apparently cured, a discharge of more than the usual quantity of mucus from the part is observed, and this may continue for some time. John Hunter (I believe) called it the 'leucorrhœa of habit,' and the name (whether correct or not) has been since retained. To arrest this, we need only increase the strength of the injection, or change it for another.

In such cases I have found great benefit from the daily injection of cold water, continued for some weeks.

Dr. Jewel has noticed a metastasis to the joints in some cases, where the discharge was suppressed suddenly; this will require suitable treatment of the part so affected, and the attack will probably be relieved by a reproduction of the original disease.

Vaginal leucorrhœa is not unfrequently complicated with uterine leucorrhœa, and will in such cases present a combination of those symptoms which are peculiar to each. I have found it better to treat the uterine disorder first, and, when that is relieved, to attempt the cure of the vaginal leucorrhœa in the way just detailed.

The *consequence* of a long continued vaginal leucorrhœa is said to be a relaxation of the parietes of the vagina, favoring the production of prolapsus uteri: it may generally be avoided or remedied by perseverance in the use of cold astringent injections. It is said that the discharge may cause purulent ophthalmia in the infant, by coming in contact with the eyes during the passage of the head through the vagina: it may be so, but I have never met with such a case.*

CHAPTER III.

THICKENING OF THE CELLULAR MEMBRANE SURROUNDING THE URETHRA, WITH A VARICOSE STATE OF THE VESSELS.

109. For the first description of this disease we are indebted to Sir C. M. Clarke;† but cases of it must have repeatedly occurred to all engaged in the practice of midwifery.

It rarely, if ever, occurs in young or unmarried females, and by far the most frequently in those who have borne several children; in fact, there is almost always an enlargement of this part in women after repeated child-bearing, even when it does not amount to the painful affection under consideration.

The disease appears to consist essentially in a dilated state of the blood vessels of the part, with hypertrophy of the cellular tissue—just what might be expected from the repeated distension and collapse of the passage in child-bearing, or from increased vascular excitement.

110. *Symptoms.*—A constant sense of uneasiness, or pain on sexual intercourse, though there may be no diminution of sexual desire, is generally the first thing which attracts attention, and the patient complains of fulness and weight at the orifice of the vagina when in the upright position. There is also a distressing desire to evacuate the bladder frequently, arising from the dilatation of a portion of the urethra, forming a small pouch, in which a few drops of urine lodge. This symptom is a source of great inconvenience, and by interrupting the patient's rest, may produce a decided deterioration of the general health. A mucous discharge always accompanies this disease.

If we turn aside the labia, directing the patient to force down at the same time, we shall be able to detect a portion of the tumified urethra, and with the finger in the vagina we can trace it up to its entrance in the bladder. The part exposed to view is of a dark-red color, and has a spongy feel. If pressed, the swelling and redness disappear, but return when the pressure is removed. There is always some degree of tenderness present. The introduction of the catheter will enable us to detect the pouch before mentioned.

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* Ed. Med. and Surg. Journ. vol. iii. p. 159.

† Clarke on Diseases of Females, vol. i. p. 259.

111. *Diagnosis.*—The diagnosis must be formed upon careful examination, both by the eye and the finger.

112. *Treatment.*—The treatment consists in puncturing or scarifying the vessels, or in the application of leeches, with cold lotions subsequently. All warm applications have been found to do more harm than good. After a few days, astringent lotions, composed of the sulphate of zinc, or alum, acetate of lead, matico, oak bark, &c. may be used.

When the punctures have healed, and all irritation has subsided, pressure must be made upon the enlarged vessels by the introduction of a piece of wax candle or a roll of linen, which must be allowed to portrude slightly *through* the orifice of the vagina.

The scarification may be repeated if the vessels become again distended, with similar subsequent treatment.

The diet should be mild, and the regular action of the bowels maintained.

The patient should constantly rest in bed, or on a sofa.

CHAPTER IV.

PROLAPSE OF THE VAGINA.

113. This displacement, which is sometimes mistaken for prolapsus uteri, is by no means uncommon. It is very rarely, if ever, seen in females who have not passed the middle age, and who have not borne children.

The conditions required for its production are, a relaxed state of the parietes of the vagina, and a protruding force *à posteriori.*

Three modifications of this displacement have been observed, viz. prolapse of the anterior and posterior parietes of the vagina and of its entire circumference. The two former are connected with the protrusion of other organs, the latter occurs independently.

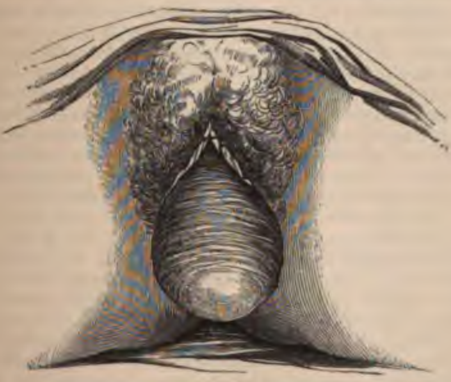
114. I. *Prolapse of the anterior parietes of the vagina and of the bladder*, or as it is also called *prolapsus vesicæ or vaginal cystocele.*

Causes.—The mechanism by which this descent is produced is tolerably intelligible. The vagina, or according to Siebold, the inner membrane only, becomes relaxed from some cause, such as repeated child-bearing, &c., and the urine having been allowed to accumulate, it distends the bladder and forces it downwards, protruding before it the yielding vagina. Every time that this accumulation takes place, the bladder is distended to a greater degree, until complete prolapse or protrusion through the external parts is the result.

115. *Symptoms.*—The patient complains of weight in the vagina,

bearing down, a sensation of emptiness and dragging in the lower part of the abdomen, unpleasantness and sometimes difficulty in walking, with more or less dysuria, as the bladder, from over distension, has to a certain degree lost the power of contraction. Several patients have stated to me that they could only complete the evacuation by replacing and supporting the bladder in its natural situation.

Dr. Golding Bird has pointed out a very unpleasant consequence of this displacement. The bladder not being ordinarily quite emptied, the portion of urine which remains becomes decomposed, very fœtid, and containing, when passed, ropy mucus. There is very considerable irritability of the bladder, with a torturing desire to pass urine.*



On examination, a round, soft, elastic, fluctuating tumor of a red or blueish-red color, is perceived at the orifice of the vagina, varying in size at different times, and which can be greatly diminished by catheterism. When introduced, the catheter requires to be directed downwards. The finger can be passed into the vagina *below* the tumor, but immediately under the arch of the pubis the mucous membrane terminates in a 'cul de sac,' from whence it is reflected over the protruding part. The os uteri can be felt behind and above the tumor, nearly in its natural situation. The surface of the tumor, when large, is smooth, moist, and shining; but when the bladder is nearly empty, it is thrown into transverse folds. There is always an increased mucous discharge.

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* Med. Times and Gazette, Jan., 1853.

116. *Diagnosis.*—From *prolapsus uteri.* The tumor is soft and of a globular form, communicating a sense of fluctuation to the finger, which may be passed up the vagina, so as to detect the os uteri in nearly its natural situation: whereas in prolapsus uteri, the tumor is firm, resisting, and of a pyriform shape, with the os uteri at the lowest part.

2. From *prolapse of the posterior wall.* The tumor is softer and fluctuating, and the finger passes into the vagina *posterior* to it; but in prolapse of the posterior wall, it can only be introduced ***anteriorly***.

3. From *inversion of the uterus.* The tumor is diminished by catheterism, and is soft, smooth, and fluctuating; whereas in inversion it is firm and rough, and the finger is prevented passing into the vagina by the reflected mucous membrane.

117. *Treatment.*—The first and most important point is to prevent any accumulation of urine in the bladder, either by the frequent natural evacuation of it, or by the introduction of the catheter. This alone will speedily diminish the prolapse, and cause it to recede. Cold applications to the external parts, or dashing cold water over the hips, will be found very useful, and cold astringent injections should be thrown into the vagina twice or three times a-day. In recent cases, this treatment, with rest, will often suffice; but in those of longer standing, where the prolapse is more complete, mechanical support will be necessary. This may be afforded by filling up the vaginal orifice either with a piece of tolerably thick wax candle, or by a roll of linen kept *in situ* by being attached to a bandage passing between the thighs; or by distending the vagina internally, so as to prohibit the protrusion of any portion of it, which may be effected by a sponge-tent, or by an elastic gum pessary of the proper size and shape. The pessaries used in prolapse of the womb are of no use whatever in prolapse of the vagina; their size and shape, which is well adapted for the former, render them quite inefficient against the latter. Dr. Rognetta, of Milan, has described one which he has found to answer the purpose very well. It is a hollow cylinder of elastic gum, of sufficient length to keep the vagina distended upwards, and to protrude slightly through the orifice, and wide enough to prevent the parietes of the vagina escaping below it. M. Jules Cloquet uses one similar, but flattened and curved slightly. It is about 4½ or 5 inches in length, 3 in breadth, and 1 in thickness. Its concave surface, when introduced, is towards the bladder, and its greatest diameter corresponds to the transverse diameter of the lower outlet. From its size it is manifest that the vagina will be kept just so much upon the stretch as to prevent its prolapse, and yet from its flattened shape no inconvenient pressure is made on the bladder or rectum. It is hollow, and open at both ends, to allow of the escape of any fluid which may be secreted.

A vulcanized India rubber bottle, such as are used for syringes, of a suitable size will answer very well, and from its softness it can be easily introduced, and it yields to pressure when in *situ*, so there is no danger of undue lateral pressure. If there be an objection to the use of a sponge-tent or pessary, on account of the irritation they sometimes excite, or if upon trial they do not succeed, it may be advisable to attempt the radical cure of the disease. As most of the females in whom this disease occurs are advanced in life, it may be superfluous to consider the possibility of conception; but when it does happen before such an age, it may be doubtful whether the operation ought to be attempted, as in all probability the passage of the child through the vagina would rupture the cicatrix, and be attended with considerable mischief.

The operation is performed by removing a triangular slip of the mucous membrane (the base of the triangle being at the orifice of the vagina) and bringing the edges of the wound into apposition by means of sutures, just as in the operation for the radical cure of prolapsus uteri. By this means the calibre of the vagina is diminished, and when the cicatrization is complete, the tightened mucous membrane will be found to support the bladder in its proper situation. Absolute rest, and cold vaginal injections two or three times a-day, will be necessary to keep down the inflammation. Catheterism should be performed as often as it may be required to empty the bladder. It will be advisable to restrain the action of the bowels until adhesion has taken place, lest the effort should rupture the sutures; and when an aperient is necessary, it will be best to administer it in the form of an enema. Another plan has been recently proposed by M. Jobert of Paris. "He encloses within two curved transverse lines an oval space, more or less considerable, in the posterior surface of the tumor or the anterior surface of the vagina, by means of caustic, so as to form an isolated spot, repeating the application of the caustic till the mucous membrane is destroyed. He then pares the edges with scissors or a bistoury, draws them together, and maintains them in apposition by means of straight needles the points of which are removed, and a twisted suture." He operated thus on a patient, July 23, 1838, and on two others subsequently, with success.

Mr. Brown removes a longitudinal slip of the mucous membrane, bringing the edges together with sutures, and then, removing the mucous membrane of the posterior portion of the vaginal orifice, he brings the edges together as in ruptured perineum. In several cases he has succeeded perfectly, and for certain cases the operation seems admirably adapted.*

118. II. *Prolapse of the posterior wall of the vagina and the rectum, or vaginal rectocele.* The mechanism by which this displacement is produced, resembles that in vaginal cystocele, except that the distending force is not derived from the bladder, but from the rectum.

It is invariably a consequence of habitual and prolonged constipation; the accumulated fæces distend the rectum to a great size, and as the vagina, being loose and relaxed, offers no resistance, a very little effort protrudes the tumor through the external orifice. As the distension is more prolonged, and the intervals of relief more distant than in the former species, the vagina returns less readily to its natural state; and even after the removal of the cause of distension, it continues loose and ready to prolapse on the least expulsive force being used.

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* Surgical Diseases of Women, p. 74.

M. Malgaigne has published a valuable memoir upon this disease.* In 13 cases the ages were as follows: 4 were from 22 to 30; 4 from 31 to 40; 4 from 41 to 50; and 1, 53 years. All but one had borne children before it occurred; 3 had 1 child; 2 had 2; 2 had 3; 2 had 4; 1 had 6; 1 had 7; 1 had 10. In 4 who were not pregnant it was attributed to a fall, a blow, or violent efforts; 3 were from 6 to 9 months pregnant; and in two there appeared no other cause. In 6 others, a consequence of labor, and in 1 of abortion. In 16 cases: it was complicated with cystocele in 7; with prolapsus uteri in 1; with both, in 3; and in 5 cases it was simple rectocele.

119. *Symptoms.*—The symptoms are much the same as in the former species: the patient complains of weight at the lower outlet, uneasiness and distress in walking, &c. In addition to which symptoms, there is a slight mucous discharge.

Some relief from the uneasiness and inconvenience is obtained by the evacuation of the rectum.

On turning aside the labia pudendi, a globular tumor is discovered occupying the orifice of the vagina, compressible but not fluctuating, and through the parietes of which, scybalæ may sometimes be felt.

The finger passes readily *anterior* to the tumor, and the os uteri is found at about the usual height in the pelvis; *posteriorly* the finger is arrested by the mucous membrane, where it is reflected downwards and forwards upon the tumor. When the prolapsed vagina is distended, the surface of the mucous membrane is smooth; but when the rectum has been emptied, it is thrown into rugæ, but by no means so minute and regular as those on the anterior parietes.

120. *Diagnosis.*—This displacement may be distinguished: 1. From *prolapse of the anterior parietes* of the vagina, by its situation at the posterior part of the orifice of the vagina, and by its permitting the finger to pass anteriorly. The tumor is compressible, but not fluctuating as in vaginal cystocele, and it diminishes after fæcal evacuations.

2. From *prolapsus uteri.* The finger introduced into the vagina will detect the os uteri at nearly its usual elevation, instead of at the lowest part of the tumor, as in prolapsus uteri. The tumor is also softer, more compressible, and more variable in size.

3. From *inversion of the uterus.* This tumor is softer, and admits the passage of the finger anteriorly, so as to discover the os uteri within

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* Mem. de l'Acad. Royal de Med. vol. vii. p. 486.

the pelvis; whereas in inversion, the "cul de sac" of the inverted vagina arrests the passage of the finger.

121. *Treatment.*—The treatment consists, as in vaginal cystocele, in removing the cause, preventing its recurrence, and in restoring the tone of the mucous membrane by cold and astringent applications, or in affording mechanical assistance by pessaries, or by a diminution of the calibre of the vagina. The gutta percha pessaries which I have contrived seems well suited to these cases as it acts by distending the vagina upwards. The bowels should be kept free by enemata, and rest should be enjoined.

The *consequences* of this disease are, excoriation of the exposed membrane, persistent leucorrhœa, and relaxation of the vaginal parietes, permitting prolapse of the womb.

122. III. *Prolapse of the vaginal canal, either partial or entire,* without the protrusion of the bladder or rectum.

It is very rare, indeed, to find simple prolapse of the whole circumference of the vaginal mucous membrane. I have seen one case where the two species I have described alternated,—one day there would be prolapse of the anterior wall, and the next of the posterior.

The mechanism is by no means so easily explained as in the other species. It appears to be owing to a loose state of the vaginal parietes, owing sometimes to distension, sometimes independently of it, and to the exertion of expulsive force.

123. *Symptoms.*—The symptoms resemble those just described, only that the bladder and rectum are unaffected, and the evacuation of their contents does not diminish the tumor.

When the entire circle of the vagina is prolapsed; on examination, the projecting tumor is seen to spring from the whole circumference of the vaginal orifice, and an opening is found at its lower part leading up to the os uteri, which, in severe cases, is found more or less dragged down from its natural situation. When the prolapse is partial, the mucous membrane projects in a fold, anteriorly or posteriorly. The extent of this species of prolapse varies much; it may be slight or it may protrude considerably. Noel* relates a case where the prolapse reached down to the knees. The absence of the bladder and rectum can generally be ascertained by grasping the tumor with the finger and thumb.

Diagnosis.—In a recent prolapse of this kind, the diagnosis is not difficult, on the grounds stated in the text; but where the tumor has been long exposed, and has become hard and swollen, the orifice inferiorly may lead us to mistake it for prolapsus uteri, and the error can only be avoided by the further introduction of the finger, and the discovery of the os uteri.

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* Journal de Med. vol. ii. p. 60.

124. *Treatment.*—The remedies to which we may have recourse are the same as those recommended for the cure of the other varieties, viz. the replacement of the parts, and their retention by a pessary, with fomentations if the swelling be considerable, and afterwards astringent injections. Or, if the patient be past the age of child-bearing, a flap of the mucous membrane may be removed, and the edges united so as to diminish the calibre of the vagina.

The *consequences* of this form of the disease, when not remedied, are rather more serious than those of the partial kind. It offers an impediment to sexual intercourse and to conception; renders the evacuation of urine and fæces difficult; gives rise to inflammation, swelling, varicose veins, and excoriation of the vagina; to excessive menstruation, leucorrhœa, and prolapse of the uterus.

CHAPTER V.

PELVIC ABSCESS.

125. Pelvic Abscess is by no means infrequent, nor is it confined to any period of life; it is most common in those who have had children, but I have seen it in unmarried females both young and old. Very often it follows delivery, especially in certain epidemics of puerperal inflammation, and has been described under the term, inflammation and abscess of the uterine appendages, but it may occur quite unconnected with this condition. The abscess may occupy either the space between the vagina and rectum, or the lateral parts of the pelvis. I propose to consider these separately.

126. I. *Abscess between the rectum and vagina.*—This is less common than the other variety, and is not confined to any period of life.

Causes.—It is most commonly the result of violence done to the parts, by a fall, a kick, &c. or by the passage of the child's head in a difficult labor. It does occasionally occur however quite independently of external causes. In a patient I had an opportunity of treating in the Meath Hospital, through the kindness of my friends Drs. Graves and Stokes, it came on immediately after the cure of a severe attack of acute uterine leucorrhœa, without any appreciable cause. It may also be caused by an extension of inflammation from the external parts of generation.

127. *Symptoms.*—By whatever cause produced, the disease gives rise to severe pain in the part; a sensation of weight, tension, throbbing, and bearing down, greatly increased in the upright position, and by the act of defæcation. If we examine internally at this stage, we

find considerable swelling in the cellular tissue behind the vagina, either between it and the rectum or a little to one side. The parts are exquisitely tender to the touch, and the tumor is hard and tense.

The inflammation runs rapidly into suppuration; twenty-four or forty-eight hours being often sufficient for the formation and escape of matter. The pain, weight, and bearing down are then diminished, but other symptoms, peculiar to the formation of an abscess, are developed. A vaginal examination will now detect the softening of the tumor, with fluctuation, and the thinning of some point in the parietes of the vagina or rectum. If the disease be allowed to progress naturally, an opening is soon made into the vagina or rectum, through which purulent matter, having generally a fœtid odour, is discharged. After this, the pelvic tumor subsides, and, if the sac be not obliterated, the discharge may go on for a considerable time. Occasionally the orifice closes, and allows the abscess to refill, to be again evacuated in the same way.

It does not always open at the point we should anticipate. From the looseness of the cellular tissue, the matter is very apt to burrow, and escape at some distant part. Fistulous openings may be found outside the orifice of the vagina, as well as in its walls, or in those of the rectum. Sir C. Clarke relates cases where a fistulous opening was formed, and offensive matter discharged whenever pressure was made. One patient was cured by preventing the accumulation, and improving the constitution.

During the inflammatory period, there is generally some febrile disturbance, the patient complains of weariness and aching limbs, of headache and thirst; the pulse is quick, and there is a good deal of restlessness and irritability. The occurrence of rigors indicates when matter is formed, and then the other symptoms subside, followed by debility and exhaustion if the discharge be allowed to persist for any length of time, and occasionally by irritative fever. The effects of the complaint upon the patient's constitution will, of course, be greater when it occurs during the recovery from parturition. Some of the inguinal glands occasionally become enlarged during the acute stage, and return to their natural state on the subsidence of the local affection.

The following case may to a certain extent illustrate the subject, and is of the more importance, as it shows that an abscess between the vagina and rectum may form part of a similar but more serious affection of the uterine appendages.

A woman, sixty-eight years of age, with chesnut hair and a dark complexion, of middle size, and a muscular system moderately developed, was admitted at the Hotel Dieu of Paris, in the service of M. Louis, the 28th of November, 1837. The catamenia appeared at the age of fifteen, and ceased at that of forty-five, and were always regular. She was married soon after their appearance, and at the age of sixteen she gave birth to a child, and two days after her confinement she walked to the church. Since the age of fifteen she has been suttler to the army; and in her earlier years she was much exposed to cold and wet. She has always enjoyed good health, and does not remember to have ever been confined to her bed two successive days. She enjoyed her usual health in the latter part of the month of September; is not aware of having been exposed to any noxious influence, when she was suddenly awakened one night by a very acute pain in the lower part of the abdomen: leeches and poultices were applied, but she continued to suffer during fifteen days. She was feverish, she lost her appetite, and even had diarrhœa and involuntary stools. She kept her bed, and was brought to the hospital in a carriage. On the 29th of November she was lying on her back; her countenance and lips pale, her tongue moist and clean, thirst moderate, and very little appetite. The abdomen below the navel was swollen, painful on pressure, dull on percussion in the lower part, where a tumor was distinctly felt in a length of two and a half inches, and in a breadth of two inches; not moveable, not easily defined. She experiences, and has experienced since the cessation of the acute pains, dull pains in that region. The stools liquid and involuntary, the urine voided without pain, and under the influence of the will, eight or ten times in the course of the twenty-four hours. A catheter was introduced with little difficulty. The pulse 88 and regular, the temperature of the skin slightly elevated —the sleep slight and broken. Two soups, a "tisane," and an enema were prescribed. The 30th November the stools were under the influence of the will, and the patient sat up; but the 2nd of December the stools became involuntary. No alteration was perceived in the tumor, but the patient lost flesh and strength. For four days the patient had not been examined, when on the 20th December no tumor was to be found. She died the 1st of January, 1838. At the autopsy a tumor, large as a hen's egg, was found in the superior part of the left lateral ligament, two and a half inches from the median line of the uterus. From an excision in the walls of the tumor there flowed an ounce and a half of yellowish liquid, and on the application of heat, flocculent matter appeared in the liquid. A cavity was found between the uterus, vagina, and rectum, lined by a false membrane, still covered by purulent matter, bounded above by the peritoneum, and below by the fascia of the perineum. This cavity communicated both with the vagina and rectum. No trace of cancerous matter could be discovered, but in the median line there was a tumor, hard, pearly white, large as a small egg.

128. *Diagnosis.*—The feeling of weight at the external parts, and the bearing down, might at first give rise to suspicions of *prolapse* of the *uterus* or *vagina;* but on making a vaginal examination, the os uteri will be found at its usual elevation, whilst at the posterior part of the vagina a tumor will be discovered, hard and tender, or perhaps fluctuating; and which cannot be mistaken for *scybalæ* in the rectum, if

we administer an enema previous to making the examination. It may be necessary to wait some days before we can distinguish this from other tumors in the same situation. Very valuable assistance may often be derived from the use of the exploring needle, and if necessary the microscopic examination of the contents of its groove. The presence of pus globules will be quite conclusive.

129. *Treatment.*—At an early period an attempt may be made to arrest the disease by the application of leeches to the vulva or perineum, followed by fomentations or poultices. If we fail in attaining this object, fomentations, poultices, or vaginal injections of warm water may still be applied to hasten the suppuration.

When matter is formed, it will be expedient to puncture the abscess at the lowest part, and evacuate the fluid completely, in order to prevent it burrowing and opening in some inconvenient situation. If the orifice be sufficiently large, the abscess will generally heal without much trouble. The vagina should be washed out with a syringe twice a-day, and a piece of sponge may be introduced, so as to compress the tumor and prevent the accumulation of pus. Should a fistulous opening be formed, it must be enlarged, as in fistulæ of other parts. The bowels should be freed by enemata daily.

When the disease comes on after delivery, and the constitution of the patient appears to suffer, it will be advisable to give some tonic medicine, and allow a nutritious diet.

130. 2. *Lateral abscess of the pelvis.*—This form of the disease may occur in certain forms of puerperal fever, may follow ordinary labor, or may come on a considerable time after delivery, or may attack the part quite independent of confinement, in married women, in virgins, or in old or young women.

131. *Causes.*—It is very difficult to assign any *special* cause for this attack apart from puerperal inflammation, but I have seen it follow cold, excessive sexual intercourse, and it is said to result from blows, falls, fright, &c. From the coincident suppression of the milk or lochia in child-bed, it has been attributed to either accident, and hence its name in the old writers of "milk abscess," &c.

That it may occur in consequence of the long continued pressure of the child's head in lingering labor I do not doubt, but it is clear that this is not a frequent case, as most of the cases I have seen occurred after natural labor, or unconnected with labor at all.

Lastly, abscess may be the termination of a more general inflammation of these parts.

132. *a.* The mode of invasion varies a good deal: in certain cases there are few, if any preliminary symptoms; uneasiness perhaps, but hardly amounting to pain, in one or other iliac region, and upon placing her hand on the spot, the patient detects a tumor.

b. Or, after a favourable convalescence after delivery for some days, just as the usual term of our attendance expires, the patient experiences a slight febrile attack, with some shooting pains in the abdomen, which subside after a time, though the fever remains without any apparent cause, until, in the course of time, the true nature of the disease is developed.

c. Again, in other cases, the attack is local, and its nature pretty evident; from the beginning there is pain in either iliac region, tenderness, and shortly after, tumefaction with fever.

d. Lastly, the tumor may assume at first the character of a more general affection of the peritoneum, the pain extending over the abdomen, occurring mainly in paroxysms, with tenderness on pressure and fever; by and bye the general tenderness and extended pain subside, and, as it were, become localized, by which the true character of the disease is determined.

133. *Symptoms.*—Having briefly alluded to the various ways in which the disease commences, I prefer taking the symptoms in the order of their importance and frequency, rather than in the order of succession.

1. The presence of tumefaction or of a distinct tumor is invariable; it occurs in all cases, and characterizes the disease. It may be felt extending from the pelvis above Poupart's ligament, into the fossa, and even upwards towards the umbilicus, but continuous downwards into the lateral part of the pelvic cavity. Or it may be mainly contained within this cavity, just reaching Poupart's ligament, protruding above the brim of the pelvis, giving a thickened feel to this part, and from its fixedness giving the impression of its being firmly connected with this part, and involving the different component tissues. The tumor is more defined when large, immoveable and painful on pressure in all cases, and very hard until suppuration takes place. In some cases the disease is still more limited, and we may not be able to perceive any swelling above the pelvis, and the disease may only be detected on a vaginal examination. On making this investigation we find the vagina hot and somewhat tender, and on one side, or at the upper part, a hard painful swelling is felt, evidently connected with the tumor in the groin, fixed to the pelvic framework, though sometimes extending inwards to the uterus, which organ cannot be moved without pain.

2. Although it may be developed at different periods, yet sooner or later pain is an accompaniment of the disease. It maintains, as it were, its seat in the tumor, from whence stings of pain radiate in all directions. When the tumor is high, that is, above the brim of the pelvis, the pain is more limited to the tumor; when situated in the pelvis and groin, it extends across that cavity, down to the anus, to the back, and down the thigh. A very characteristic mark in these cases is the difficulty, in many cases the impossibility, of straightening the thigh or of standing quite upright; walking too is both difficult and painful.

3. In the cases where the tumor occupies chiefly the pelvic cavity,

we often find the patient distressed by tenesmus and a desire to make water, the consequence probably of an extension of irritation to the bladder and rectum. Occasionally, when the tumor is very large, it appears a mechanical impediment to the functions of these viscera, and the patient may suffer from dysuria, or may find it very difficult to evacuate the intestinal canal.

4. The amount of fever as well as the time of its development varies. In some cases it precedes or accompanies the first local symptoms; in others it supervenes some time after the tumor has been detected. In a few cases it is almost confined to the evening, and during the process of suppuration there are, in almost all cases, evening exacerbations. The pulse ranges from 90 to 100, the tongue is loaded, the skin hot, the thirst considerable, and the urine high coloured. The appetite is always impaired.

These symptoms are somewhat mitigated, or at least the patient appears to suffer less, in cases not connected with parturition.

134. *Pathology.*—That we have here phlegmonoid inflammation, terminating in abscess, is quite evident, but what tissues are involved? The cellular membrane of one side of the pelvis external to the vaginal canal certainly, and in many cases, I believe, the uterine appendages, ovaries, fallopian tube, and broad ligament of that side; but this does not appear to be always or necessarily the case, and therefore I have preferred placing the disease under the head of pelvic abscess, instead of inflammation of the uterine appendages, as in the former edition.

In some cases I cannot but think that the uterus, or one side of it, is involved also, at least I have found it very tender, and the tumefaction continuous from it to the pelvic wall.

135. *Terminations.*—After being fully developed and running on for an uncertain time, the disease may terminate, 1. *In resolution.* And then we find the pain diminishing, and ultimately ceasing: the tumor becoming less tender, then less in size, until at length it disappears. This process may occupy from one to three months.

2. *In abscess.* When suppuration takes place we can generally feel a degree of softening, with an obscure sense of fluid in the tumor, either externally or internally: the patient complains of more throbbing and occasionally of rigors, and by degrees (if not anticipated) the coverings are thinned and the matter may escape.

a. Externally, through the abdominal parietes, covering the tumor.

b. Into the peritoneum, where it gives rise to peritonitis, always dangerous, but not always fatal.* This accident I think must be very rare.

c. Into the vagina, through which the matter escapes.

d. Into the rectum, from which it is discharged with the stools.

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* Med. Times and Gaz. Sept. 2, 1854, p. 239.

These two outlets are certainly those through which the matter is most frequently evacuated.

e. Into the bladder, but very rarely; cases however have been recorded by Lisfranc and Emery,* Mr. Hawkins,† Dr. Johnston,‡ Dr. Battersby,§ M. de Calvi and others.‖ Professor Simpson has also recorded some cases in which a vesico-uterine, vesico-rectal, and utero-intestinal fistula seemed due to this cause.

f. Into the surrounding cellular tissue, where it may burrow until it finds an outlet.

g. Through the walls of the uterus, as in the cases related by M. Dance¶ and Mr. Wainwright.**

The matter may be evacuated by any of these 'routes,' and if the opening be sufficiently large, the sac will be emptied, and the abscess fill up and heal. But if the opening be small, the discharge may continue for an indefinite length of time, the opening remaining fistulous, and the cure being proportionally difficult.

3. Lastly, the extent of the disease, or the secondary affections caused by it, may prove fatal after an uncertain time; but this result must be rare, I think; at least I have never witnessed such a termination out of more than thirty cases.

137. *Diagnosis.*—A good deal of light will be thrown upon the diagnosis when the disease occurs within a reasonable time after parturition, and especially when the patient has suffered from abdominal pain: in such cases, if we discover a tumor at the brim of the pelvis, or in one of the iliac fossæ, with tenderness and pain, we shall have very good grounds for believing the case to be one of pelvic abscess.

If however the attack occur independently of childbearing, or at a considerable interval afterwards, there may be difficulty in distinguishing between it and some of the chronic organic diseases of the ovary or caput cœcum coli, and our best guide, probably, will be the amount of pain and constitutional disturbance, which is much greater in the disease I have been describing.

I have known this disease mistaken for sciatica, and when the tumefaction is within the pelvis, and pressure is made upon the nerves issuing from that cavity, the pain may be limited to the track of the nerves, so as to deceive any but a careful observer. However a minute examination will enable us to trace the pain into the pelvis, and then an external, and especially an internal examination will reveal the cause of the pain. The flexion of the thigh, and the difficulty of straightening it which alone might also mislead, ought of itself lead to an examination of the groin, and so to the detection of the tumor.

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* Revue Med. 1827.
† London Med. Gaz. 1832.
‡ Brit. and For. Med. Rev. 1836.
§ Dublin Journ. May, 1847.
‖ Med. Times and Gazette, 1854, p. 164.
¶ Mem. sur quelques Engorgemens inflam. &c. obs. 14, 1827.
** Brit. and For. Med. Rev. July, 1841.

137. *Treatment.*—The indications of cure are: 1. to procure resolution of the tumefaction, or 2. to promote suppuration and evacuation of the matter.

1. If we are called in at an early period of the disease, it is often possible to arrest its progress, as has been well remarked by Dr. Doherty; nay, even when it has existed some time, as in the case related by Puzos, it is quite possible to procure resolution. For this purpose, Mauriceau and the author just named advise repeated venesection, with purgatives, alteratives, absorbents, &c. I believe, however, that the repeated application of leeches will be found equally effectual, at a less expense of strength. A dozen should be applied over the tumor, followed by poultices, and repeated if necessary, i. e. if the pain and throbbing be not relieved. Even this activity must depend on the condition of the patient, as, if much reduced, she may not be able to bear it. If we succeed in arresting the progress of the inflammation, a succession of small blisters will be of great use. Fomentations and an occasional hip-bath afford great relief to the patient, but still more comfort is derived from vaginal injections of warm water twice a-day.

Internally, we may exhibit mercury in small doses, perhaps even so far as slightly to affect the gums; and give an occasional purgative; but I confess I do not think brisk purgation beneficial: in some cases I have seen it increase the pain considerably. If the pain prevent sleep, an opiate may be administered. When the disease shows signs of yielding, I have seen benefit derived from an application of the emplastrum hydrargyri. The diet should be bland and nutritious, but unstimulating.

2. If, however, notwithstanding the prompt and sedulous use of the means I have indicated, the disease should not yield, we may be sure that suppuration will take place, and our object then will be to promote this by fomentations and poultices constantly applied.

The formation of matter will sometimes be indicated by rigors, but in many cases it is by the touch only that we can recognize this occurrence. I cannot too strongly impress upon my readers the advantage of making an opening into the abscess, when possible, and so deciding the course which the matter ought to take, instead of leaving it to burrow and open in some inconvenient or dangerous situation. If we perceive the thinning and softening pointing in the vagina, our minds may be easy, provided it open freely, and in some cases the fact of a small opening having taken place may be determined by examining the discharge with the microscope. If the opening be not large enough, we can easily make it larger. An opening through the vagina, rectum, or external parietes is safe enough, and far better than the chance of an opening into the peritoneum. Our great duty is to see that the opening, whether spontaneous or made with the lancet, is sufficient to empty the sac, and that the matter is completely evacuated.

Should an opening form in any inconvenient or dangerous situation, we must meet the consequences according to the means at our disposal. It will be better even to make a second opening and freely empty the sac, rather than allow a fistulous communication to continue.

I shall hereafter refer to the treatment of these fistulous communications with the bladder, &c.

When the matter has been fairly evacuated, the diet must be generous, and a full share of wine or porter allowed.

It does not follow that the attack will recur if the patient be again confined: in more than one such case I have found the subsequent recovery satisfactory.

CHAPTER VI.

TUMORS IN THE PELVIS EXTERNAL TO THE VAGINAL CANAL.

138. The annals of midwifery record numerous cases of difficult labor owing to these tumors, and some in which the extraction of the child, entire or mutilated, has been rendered impossible by them. This is not the place to enter upon the consideration of their influence upon labor, and therefore I shall content myself by referring my reader to the works which so treat of them.*

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* Perfect's Cases, vol. ii. p. 241.
Baillie's Morbid Anatomy, p. 427.
Baudelocque's Midwifery, (by Heath), vol. iii. p. 207.
Van Doveren, Specimen Observ. Acad. cap. ix.
Dr. Dewees' Case, Ed. Med. and Surg. Journ. vol. i. p. 20.
M. Pelletan, Clin. Chirurg. vol. i. pp. 203, 224, 234.
Mr. Park, Med. Chir. Trans. vol. ii.
Journal Complement, vol. xxxvi. p. 434.
Dict. des Sciences Med. vol. lxvi. p. 469, art Vagina, by M. Mura.
Davis's Obstetric Med. vol. i.
Dr. Merriman. Med. Chir. Trans. vol. x. p. 50.
Dr. Blundell. Diseases of Women, p. 22.
Dr. Montgomery. Dublin Journal, vol. vi. p. 418.
Mr. Ingleby. Ed. Med. and Surg. Journ., Jan. 1836. Facts and Cases, p. 119.
Lond. Med. Gazette, vol. ix. p. 119. Ibid. March 16, 1839.
Mr. I'on. Lancet, July 28, 1838.
Mr. Leon. Lancet, July 11, 1840.

They are generally found on one side of the rectum and vagina, or between these two organs, and very rarely anterior to the vagina. They may grow underneath the mucous membrane of the vagina; in the cellular membrane behind the vagina; or they may be more immediately attached to some part of the osseous frame-work of the pelvis, whether the product of diseased periosteum or not. In some rare instances, they occupy the bladder or rectum.

The nature of these tumors varies considerably. Most frequently they consist of cysts, containing a fluid different in color and consistence in different cases. Two of Mr. Park's cases contained a bloody serum with membranous flakes. They are sometimes fibrous and fleshy, or of a more dense fibrous texture, with particles of calcareous matter scattered through them. Occasionally they are of a more serious character, either fungous or, more rarely, carcinomatous. In the latter case there is generally disease of the uterus also. An enlarged ovary may also occupy the recto-vaginal septum.

The form of the tumor depends chiefly upon its situation, and upon the pressure of the surrounding parts upon it, so that it may be round, flat, or polypoid.

139. *Symptoms.*—The growth of the tumors is very insidious and gradual, in most cases giving rise to no symptoms at all, and remaining undiscovered until some mechanical difficulty caused by their presence, or an examination for another purpose, leads to their detection. The mechanical symptoms may rise from pressure on the rectum or bladder impeding the evacuation of their contents, or from the obstacle to sexual intercourse; and labor may be rendered tedious or impracticable by the diminution in the calibre of the vaginal canal. I have once or twice found the uterus very much displaced in consequence of the lateral and upper portion of the pelvis being occupied by one of these tumors. In addition, the patient will occasionally complain of a weight in the pelvis, and perhaps of darting pains. There is generally an increase in the natural secretion of the part, but seldom to any great amount.

The tumor will be discovered by an external examination, and its situation, extent, and sometimes its character, may be determined. Many years may elapse without any change in the disease, with very little inconvenience, and no danger. It has sometimes happened that the encysted tumor has been ruptured, and it either refilled or healed up. In the fungous or carcinomatous tumors alone have we to fear ulceration, and when it does take place, it is accompanied by a series of symptoms to be hereafter described.

140. *Diagnosis.*—Any of the circumstances which have been mentioned, as calling our attention to this disease, require an immediate internal examination, which will discover the seat and generally the nature of the obstruction. The acute symptoms which accompany the formation of an *abscess between the vagina and rectum*, the time of its occurrence, its cause, and the peculiar course will enable us to distin-

guish the tumor I have been describing from that disease. Moreover, in many cases the nature of the tumor may be decided by the employment of the exploring needle and the microscope. The state of the uterus should be carefully ascertained, as it may throw light upon the diagnosis.

141. *Treatment.*—If the patient be not pregnant, nor in the way of becoming so, and if the symptoms (mechanical and pathological) be slight, it will scarcely be advisable to interfere, unless indeed, the tumor be of that form and in that situation which will render its removal easy (as, for example, in polypus of the vagina), or its contents of that character which will afford a probability of their evacuation by puncture, and of the subsequent obliteration of the sac. In such cases, either operation (excision or puncture) may be performed, and in the manner most likely to ensure success.

But the case is otherwise if the patient be pregnant. From a careful comparison of the cases on record, with the results of different plans of treatment, it is evident that if the tumor contain a fluid, it ought to be opened, as in the following case related by Mr. Ingleby: "Three years ago I was called to a case of difficult labor, but made no examination, the child having been delivered by the perforator and crotchet prior to my arrival. A year afterwards the patient was delivered of an immature but living child. The succeeding labor commenced on Friday, the 26th Sept. 1835, and her surgeon was summoned about 10 P. M. My attendance was requested at 8 o'clock the following morning. The pelvis, from the brim to the coccyx, was very nearly filled by a large and apparently unyielding tumor (not unlike a full-sized fœtal head) bulging into the rectum, and, from its tension supposed to be altogether solid. The head of the child resting over the *ossa pubis*, could barely be distinguished, and the pains had been very forcible the nine preceding hours. A long trocar was passed (*per rectum*) into the tumor obliquely upwards, and on being withdrawn, ten or twelve ounces of dark serous fluid tinged with blood gushed out forcibly through the canula. The sac immediately collapsed, but the pains unfortunately disappeared, and after waiting three hours the forceps were applied, and the patient was promptly delivered of a living child. She recovered without a single bad symptom."*

If the tumor be solid but removable without much difficulty, it should be excised previous to the commencement of labor. If neither be practicable, other measures must be adopted at the time of delivery, and these will be found detailed in all the standard works on midwifery.

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* Facts and Cases in Obstetric Med. p. 129.

SECTION II.—DISEASES OF THE UTERUS.

CHAPTER I.

OCCLUSION OF THE OS UTERI.

142. Before proceeding to the consideration of the more common uterine diseases, I think it will be better to say a few words upon the closure, more or less completely, of the os uteri, not merely because one variety is a congenital malformation, but because, whether congenital or acquired, it must necessarily interfere with the uterine functions, and indeed constitutes one variety of functional disease.

This imperforate condition of the mouth of the womb may be either congenital or acquired, and it may either be partial or complete.

143. I. *Congenital occlusion.*—If the reader will turn back to the chapter on occlusion of the vagina, he will find several cases in which the os uteri was also imperforate, and this double defect is not very unusual. At the same time, I must remark that we often have the vaginal orifice closed without any defect in the uterine aperture. It would appear that adhesion of the whole or greater part of the canal is more generally accompanied by occlusion of the os uteri.

At the same time it is evident that, in a practical point of view, closure of the vagina, so long as it continues, involves virtually the closing of the os uteri. But on the other hand, the vagina may be perfect, and yet the os uteri imperforate, as in the following case by Dr. Oldham: "Maria B. appeared among my patients at Guy's, Mar. 1, 1851. Her immediate ailments were unimportant, but I was struck with her informing me that she had never menstruated. She was 48 years of age; a tall, rather muscular woman, with large full mammæ and a well expanded pelvis. The upper lip was without hair, but some few hairs had grown upon her chin. She was married at 15 years of age, and her sexual desires had been natural, but she has been sterile. She had suffered occasionally from pelvic and abdominal pains, but there had been no regular menstrual or periodical uterine effort, or any supplementary flux of blood or other discharge from any other mucous membrane of the body. The general health has been good, and she has lived well in the neighbourhood of London. The external sexual organs were fully developed, and the pubis abundantly covered with hair. The vagina was a deep canal, normal in shape, and healthy. The uterus was well placed, of natural weight and mobility, and the vaginal cervix well formed, but there was no os uteri: the site of the os could be felt by a slight dimpling, and by the speculum it could be seen; but it was quite impervious, and some small bloodvessels appeared to pass over it."*

Some years ago I was consulted by a young woman, æt. 25, who had never menstruated, although she had noticed the periodical effort, with its concomitant pain and uneasiness. The immediate occasion of her distress was a tumor above the pubis, which had gradually enlarged, and was becoming increasingly painful. It was as large as a fœtal head, had exactly the shape of the uterus, and occupied its situation. On making an internal examination, I found the cervix uteri longer than usual, full, and pressing down. There was no os uteri. As it was evident that there was a collection of fluid in the uterus, I opened the os uteri freely with a bistoury, and after emptying it of the collected menstrual fluid, I left an elastic catheter in the opening. The os uteri remained pervious for some time, and she menstruated naturally, but at length it closed, and I had to re-open it, since which time it has continued pervious, and the patient perfectly well.

Similar cases are recorded by Drs. Owen,† Martin,‡ Hatin,§ and others.‖

144. The *symptoms* in these cases depend altogether upon whether there be any menstrual secretion; if there be, we find a monthly effort, considerable uneasiness and distress, weight in the pelvis, uterine tenesmus, aching round the loins, and by degrees an increasing tumor above the pelvis, resembling in form and situation the impregnated uterus. If there be no menstrual secretion, and there may be none, as in Dr. Oldham and Dr. Watson's cases, there will be no tumor, and none of the periodical symptoms which characterize the catamenial periods. The fact of the full development of the sexual characteristics would lead us to infer the presence of the ovaries, which renders it more difficult to explain the absecnce of secretion, unless we attribute it to the wonderful—instinct I had almost said—by which organs adapt themselves to new or peculiar circumstances.

Nor is it much less remarkable that persons so circumstanced should preserve a good state of health for many years, as in Dr. Oldham's case.

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* Med. Times and Gazette, March 27, 1852.

† Lancet, Oct. 14, 1837.

‡ Bullet. Med. Belge, Feb. 1838.

§ Journal des Connoiss. Med. Ap. 1839.

‖ London Med. Journal, vol. iv. p. 243.

145. In cases where accumulation takes place to any extent, it would be very easy to fall into an error of *diagnosis*, if our examination be superficial. The shape, situation, and feel of the uterine tumor resembles pregnancy very exactly, but of course neither placental souffle, nor fœtal heart is heard. This, however it might make us disbelieve in the existence of normal pregnancy, would throw but little light upon the true nature of the case. But the fact that, with the menstrual molimen each month, no discharge has taken place, ought at once to make us suspect some organic deficiency, and a careful examination with the speculum and bougie will reveal that the exit from the uterus is impervious.

146. *Treatment.*—If there be accumulation, there can be no doubt as to the propriety of opening the os uteri, which is not difficult, but which requires a little care. We may use the speculum or not, as we find most convenient. The point of a straight bistoury should be placed as nearly as possible in the situation of the os uteri, and a perforation made by pressing it upwards, until the contents of the uterus escape. The opening may then be enlarged laterally to whatever extent we think necessary. Or a trocar and canula with a long handle may be used to perforate the cervix, and the canula left after the trocar is withdrawn, until the uterus be emptied.

After emptying the uterus, the vagina should be syringed with warm water, and a binder and compress applied to the abdomen. In a day or two after the collected menses have all drained away, it will be necessary to introduce an elastic bougie of tolerable size through the cervix, and maintain it there, in order to prevent the closure of the uterine orifice.

As to cases such as Dr. Oldham's, in which there is no accumulation, and which apparently gives rise but to the one inconvenience, sterility, it may be a question whether anything need be done. Medically speaking, there seems to be little call for interference; but as there is confessedly a defect, and one which we can remedy, there can be no impropriety in so doing, and the decision of the question may, I think, be left to the patient herself.

147. So much for the absolute closure of the os uteri. There are many cases in which this orifice is congenitally unusually small, so small indeed as to be scarcely perceptible, but to which I need only allude, as they will be noticed under the heads of mechanical dismenorrhœa, and of tedious and obstructed labor,* to which the extreme contraction gives rise.

148. *Acquired occlusion of the os uteri.*—Here again I may remark

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* Theory and Practice of Midwifery, p. 261.

that in a certain practical point of view, occlusion of the vagina, where secondary and continued, is virtually a closure of the uterine orifice, though it does not follow that the os uteri is actually impervious. We may have either orifice closed, whilst the other is in its natural condition. As some points of practical importance are involved in the distinction, I shall first notice *partial*, and then *complete* occlusion of the os; and I would here frankly express my obligations to the admirable essays of Dr. Ashwell and of Dr. Trask,* for the cases they have collected.

149. I. *Partial occlusion.*—I do not intend to include under this head the ordinary cases of undilatable or rigid os uteri, whether it be a first or subsequent labor, but these cases in which the cervix is rendered hard and undilatable, and the os smaller than natural by previous injury. The term, partial occlusion, also is somewhat inaccurate, or at least very indefinite, as in many of these cases we have no means of telling whether the os was really smaller than natural, as we are called only at the time of labor, when some progress at opening the orifice has been made. The essential condition seems to be that the cervix having been previously injured in any way, the process of reparation involves such a change of tissue, as will impede future dilatation, whether the orifice be made smaller than natural or not.

Dr. Smellie has given three very instructive cases. In one the os uteri was closed by a cicatrix of cartilaginous hardness, the result of a former labor, and after waiting two days an incision was made, but the parts were so rigid that Dr. S. had to deliver by the perforator. She died in twenty-four hours after delivery.† In the second case, vigorous attempts were made to dilate the os uteri, but without success, and to draw down the child, both by Mr. Burnett and Dr. Smellie. The patient died undelivered in a convulsion.‡ In the third case, after continued and unsuccessful attempts to dilate the os uteri, Dr. Smellie incised the cervix by a pair of scissors, and a dead child was delivered by turning. The patient died on the fourth day.§

Dr. Ashwell mentions a case of a patient, æt. 31, who had a very rigid os, which, after waiting twenty-six hours, was dilated by the finger—which process required two hours. She died of peritonitis, and the whole cervix, the lower part of the body of the uterus, with the vagina, were gangrenous.‖

He has also recorded a case in which he employed crucial incisions in two successive labors; perforation was necessary in the first case, and in the second the forceps, but the child died. The mother recovered, and has since borne several strong children.*

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* American Journal of Med. Sciences, July, 1848, p. 95.

† Smellie's Cases, vol. iii. p. 64.

‡ Ibid. p. 205.

§ Ibid. p. 211.

‖ Guy's Hosp. Reports, vol. iv. p. 141.

In Mr. Tweedie's case, the patient was taken in labor of her second child on Jan. 2. The pains were most powerful, and by noon there was an opening into the uteris, through which the head could be felt, which had not dilated. At 2, p.m. the opening was irregular, rather less than a penny in area, and bounded anteriorly by a strong, firm, unyielding rigid edge—the cicatrix of a former incision, upon which the head was forcibly impelled. There was no trace of cervix. At 6, p.m. no dilatation, pulse quick, skin hot, vagina becoming hot and dry; the stricture was divided, with almost no hemorrhage, and without pain; pains lulled, and she was faint: brandy and water was given to her. In three-quarters of an hour there was an additional rent, and delivery soon took place. Child asphyxiated, but restored. Recovered in three weeks.†

Dr. Ashwell reports the following case by Mr. Butler. The patient was æt. 26 or 27; she had undergone an operation for artificial vagina at the age of 19, and just previous to marriage, five years before; the os uteri was patent, yet small, admitting the end of the finger, but totally unlike a natural os uteri. During parturition this did not dilate, and was therefore incised in four directions; the head was perforated, and the labor terminated without laceration; recovery was difficult and protracted. In a second labor, a year and a half after this, the os was again too small. It was again incised, and the child delivered alive by the forceps. She had then natural labors afterwards.‡

In Dr. Buckminster's case, it was the patient's third labor. When in labor an hour and a half, the os was quite near the vulva, with thin edges, about the size of a dollar, perfectly unyielding, and with apparently a cicatrix, anteriorly extending upwards and outwards. One grain of tartar emetic was given, and repeated at intervals of fifteen minutes, producing only nausea. When in labor about two hours and a quarter, the head, covered by the uterus, was forced through the outlet, and pressed upon the vulva, so as to be distinctly visible. There was imminent danger of laceration. The posterior part was incised to the depth of an eighth of an inch: the wound instantly enlarged itself, and in about three-quarters of an hour the child was born alive. She recovered.§

In Dr. Gardner's case, the os uteri dilated to a certain degree, and then remained permanently hard and rigid, unaffected by large bleedings, tartar emetic and opium. Finding that the condition of the patient was becoming more serious, and hopeless of relief from ordinary means, he divided the cervix bilaterally, as an alternative of the crotchet. The patient was safely delivered, but the child was putrid.*

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* Med. Gaz. 1837, p. 855.

† Guy's Hosp. Reports, vol. iv. p. 119.

‡ London Med. Gaz. vol. 20, p. 589.

§ American Jour. of Med. Science, Oct. 1847.

Dr. F. Ramsbotham mentions two cases of extreme rigidity in the second labor, in which after long suffering the cervix gave way. The patients died on the fourth or fifth day from uterine inflammation.† Cases have also been recorded by Dr. Lever‡ and M. Laborie.§

Many more such examples might be adduced,‖ but these will suffice to illustrate the class of cases to which I refer, and the results.

The *causes* of this partial occlusion or extreme rigidity, appear to be either organic disease or inflammation after previous delivery, or other mechanical causes.

150. Of course this state of the cervix occasions no inconvenience or inaptitude until the time of delivery. Then indeed very serious consequences may result. In some cases, dilatation follows the use of bloodletting and tartar emetic, and the patient is delivered naturally and safely. In other cases, the symptoms of powerless labor set in, and if not delivered, the patient sinks from exhaustion.

Again, a portion or the entire of the circumference of the cervix uteri may be torn off, as in the cases related by M. Steidelè, Mr. Scott,¶ Dr. Kennedy,** Dr. Parr, Dr. Lever, Dr. Johnston,†† myself, and others.‡‡

Or lastly, rupture of the uterus itself may occur, involving the life of the mother, as well as the child.

Dr. Trask thus recounts the results of the cases he has collected, when left to nature. "In patients 26 and 39 they died undelivered from rupture of the womb. In case 34 there was laceration of the posterior wall of the womb and of the rectum, and expulsion of the fœtus 'per anum.' In cases 35, 36, 37, and 38, the cervix was wholly or in part torn off—the patients recovering. In case 40 the whole cervix was torn off, and the patient died. F. Ramsbotham relates a case in which the os uteri had entirely sloughed off, in consequence of the strong pressure to which it had been exposed for a great length of time."§§

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* American Jour. of Med. Science, July, 1852, p. 127.

† Obstetric Med. and Surgery, p. 222.

‡ Ranking's Abstract, vol. ii. p. 184.

§ Ibid, vol. iv. p. 186.

‖ Brit. and For. Review, vol. vi. p. 235. Encyclographie Med. April, 1846. Archives Gen. Oct. 1830. Philadelphia Med. and Phys. Journal, vol. i. p. 386. Dict. de Sciences Med. vol. xxiii. p. 297, &c.

¶ Med. Chir. Trans. vol. xi. p. 292.

** Dub. Journal, vol. xvi. p. 52.

†† Amer. Med. Journal, Ap. 1851, p. 342.

‡‡ Med. Gaz. Aug. 29, 1848.

§§ Amer. Journ. of Med. Science, July, 1848, p. 108.

151. These cases being thus serious, it is a matter of great anxiety to ascertain as clearly as possible the grounds of *diagnosis*, and yet I fear it will be very difficult to lay them down in a book.

Unless an examination reveals the presence of disease, or of altered structure, or we know of damage having been previously done to the cervix uteri in former labors, or in some other way, we shall probably have no grounds, even of suspicion, until labor has been going on for some time, and then our conclusion will result from the failure of all the ordinary means. If there be positive evidence therefore of an organic change in the cervix, we may anticipate that it will not readily dilate, and after a failure of all the ordinary means of aiding the uterine efforts in the dilatation, we may assume that the case belongs to the class I have been attempting to describe.

The *prognosis* is upon the whole very serious. As regards the more decided cases, when there is organic change or actual disease, it is extremely grave.

152. *Treatment.*—There are three courses open to us, either to use such ordinary means as blood-letting, tartar emetic, &c. and leave the result to the natural powers, or to endeavour to produce artificial dilatation; or, lastly, to incise the cervix. With regard to the ordinary means in rigidity of the os uteri, I would remark that a fair trial should be given to them in all cases, before adopting either of the two alternatives, but that this trial should not be too much prolonged, or the condition of the patient may be seriously deteriorated.

Assuming therefore that, according to the constitution and strength of the patient, we have tried blood-letting, tartar emetic, the warm bath, &c. without success, and that the symptoms are beginning to change from the safe ones of the first stage, to the more serious ones of a prolonged second stage,* are we to do nothing more than wait until we may be able to crotchet the child, or until the cervix or uterus give way? I think not; nothing would justify our ceasing our efforts at so much risk. The results I have quoted are a fatal proof of this.

Can we then trust to artificial dilatation? I am far from thinking that an effort of this kind should not be made, and made before the labor has lasted too long, as soon indeed as we find that the ordinary means are useless, but it should not be carried too far. If it answer speedily, it is well; but if it be continued long, even though it succeed in the end, the consequences may be very serious. In four cases quoted by Dr. Trask, in which dilatation was trusted to, the result was fatal in all; one dying of peritonitis, after delivery; one of laceration and flooding; one of convulsions, undelivered; and one of ruptured uterus, undelivered.

153. With regard to the third plan, that of incising the rigid os

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* Churchill's Midwifery, p. 254.

uteri, it does not appear to be necessarily attended with unpleasant results, for in seven cases collected by Dr. Trask, the patients recovered. Dr. Gardner's case terminated favourably.* M. Baudeloque advises incisions, after waiting a sufficient time and trying ordinary means without success. M. Chailly mentions a successful case, and recommends several incisions, as being likely to prevent laceration. M. Cazeau is of the same opinion. Dr. F. Ramsbotham thinks that in some rare cases the operation may be necessary. Dr. Lever regards the operation as unattended with danger.† Upon the whole, Dr. Murphy would be disposed rather to increase the cervix, than to wait for the child's death and then craniotomize. Dr. Dewees observes that "the success of this plan has been verified in this country, as the case of Dr. Thomas Archer most satisfactorily proves. And Professor Retzius of Stockholm informs me that he has known it adopted with success."

On the other hand, it cannot be denied that there is a great weight of authority against such interference.

The danger appears to consist chiefly in the extension of the incision into a laceration of the uterus, and in some degree also of hemorrhage. We cannot regard the operation lightly, but I think the evidence I have adduced is sufficient to prove that in certain cases, when other means have failed, we ought to have recourse to it, rather than leave the case to nature, or trust to prolonged efforts at artificial dilatation. Dr. Trask remarks that "the incision, so far from leading to more extensive and dangerous lacerations, under the continuance of pains, in none of these instances encroached on the peritoneal cavity; and being made in the most favorable directions, lead to no injury of the adjacent organs. The operation was, in the instances in which this point is alluded to, almost free from pain and loss of blood. In the only fatal instance we have found, the operation was resorted to three days after the patient had "suffered from pains and fever, and was much exhausted." In some of the successful cases the operation was deferred until symptoms of exhaustion began to manifest themselves, but they nevertheless rallied."

If we admit the propriety of the operation in certain cases, as I think we must, at what time ought it to be performed? There can be no question that the ordinary means ought first to be tried, to such an extent as the patient's constitution will bear, and for a sufficient time to satisfy our judgment that neither from them, nor from the natural efforts under their influence, have we anything to expect. After this period, it appears to me that we risk one life, if not two, unnecessarily, in further deferring the incision of the neck.

Dr. Trask recommends an early recourse to this operation. "Bearing in mind," he says, "the danger incurred by the patient, of rupture of the body of the womb, of unlimited laceration of the cervix, and, it may be, of sloughing that may follow long continued pressure; and considering that the risk attendant upon judicious incision is very little, are we not encouraged to an early, rather than to a deferred, resort to a section of the neck. In the measures usually adopted there is no immediate risk. Blood-letting, to produce any effect, must be liberal, and we know that many constitutions do not well bear the loss of blood. Where the patient is robust, and the fibre firm, general depletion and nauseants, by producing relaxation of the general system, may diminish local rigidity. But in the delicate and anœmic, venesection to any considerable extent could not be borne, and in such, a division of the parts must be made at an early period. We think it may fairly be questioned whether, after a moderate blood-letting and the use of tartar emetic, in case the rigidity does not yield, and any structural lesion can be detected, we ought to wait until symptoms of approaching exhaustion appear. Since a spontaneous laceration of the rigid parts is the best that can be expected, after a judicious use of relaxant measures has failed, what is to be gained by waiting until the patient is in a state of hopeless prostration, before the knife is used."*

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* Amer. Journal of Med. Science, July, 1852, p.

† Guy's Hosp. Rep. Oct. 1845, p. 185.

The reader will, I hope, bear in mind that in this section we are not considering ordinary cases of rigid os uteri, but those where this effect is the result of injury or disease.

One question still remains. When the cervix is rendered undilatable by malignant disease, are we to have recourse to incision? Mad. La Chappelle relates several cases of this kind, in which the cervix was incised, but the patients died after delivery by the forceps.

I saw a case of corroding ulcer which was left to nature, laceration took place, and the patient died.

Mr. Arnott mentions a case in which a morbid growth occupied the anterior lip and right side of the womb, and was of the size of a large walnut. The diseased mass was forced down by the pains, was seized and drawn down by hooks, and removed by the curved scissors: scarcely any blood was lost; the os uteri dilated immediately, and a living child was born. The mother recovered, but died afterwards of the malignant disease.†

In most of such cases I think we have but little chance of saving the patient, yet perhaps more by incision than by any other means, but if the child be alive, we undoubtedly shall so give it a better chance; and when the mother's life is compromised by malignant disease, the life of the child assumes an unusual importance in our mode of treatment.

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* Amer. Journ. of Med. Science, July, 1848, p. 109.

† London Med. Gaz. Dec. 1847, p. 1068.

154. II. *Complete occlusion of the os uteri.*—In considering the cases I am about to quote, a question at once occurs with regard to some of them, as to whether they were congenital or acquired, which might appear to be answered by the fact of pregnancy having occurred, but this only leads to another question, viz., whether the occlusion was prior or subsequent to impregnation.

155. I shall now relate in sufficient detail, such cases as I have been able to find, both on account of the instruction each affords, and the practical inferences to be drawn from the whole, and as a matter of honesty I must again confess my obligations to the essays of Dr. Trask, who has anticipated me in the laborious search through volumes of cases and periodicals.

Dr. Smellie has given a case of contraction of the pelvis, and cohesion of the sides of the os uteri, which left no vestige of a passage—the result of inflammation and suppuration following a previous delivery. After a labor of two days, the vagina was dilated, which afforded a view of the contracted os. An incision half an inch deep was made, and the head touched. The parts were of cartilaginous hardness, not yielding to pains, and requiring several subsequent incisions. The opening not yielding sufficiently, craniotomy was performed. High fever followed, and she died in twenty-four hours.*

Dr. Wright has related a case of a patient who was delivered by instruments in her first pregnancy, and which was followed by a discharge of pus. In her second labor, after the pains had lasted twenty-four hours, a dense globular tumor, consisting of the head covered by the cervix, was forced into the vagina. No os uteri could be felt, but where it should have been, there was a firm hard point, with three ridges diverging from it. Opiates were given, which almost put a stop to the pains during the afternoon and night. Pains returned powerfully at 7 a. m., and rupture of the uterus was feared. While the finger rested on the central part something was suddenly felt to tear, and after two pains, the finger was passed into the rent; this enlarged in the direction of the three cicatrices, and by 5 p. m. the opening was so large that the membranes burst. The head did not advance for three hours; giddiness and headache came on, and she was delivered by the forceps of a full-sized living child. She was well in ten days, with a slight purulent discharge, which left her in one week afterwards.†

In Dr. Cuffe's case, the patient, æt. 40, was the mother of three children. At 6 a. m. she had been in labor thirty hours; no os uteri could be found with probe or finger. The vagina was five inches in length, dry and swollen. The pains were regular and strong. At 11 p.m. vaginal hysterotomy was performed. With a blunt pointed bistoury an incision was made, of half an inch in length, layer by layer, through the uterus, in the line between the bladder and rectum, and four ounces of liquor amnii escaped; this was crossed at right angles by another. There was neither pain nor hemorrhage from the operation, and in one hour the child was born alive. After the lochia ceased, a bougie was introduced frequently for some time; the aperture is now small and irregular, without a cervix. The catamenia returned in six weeks. The patient had been in the habit of using strong injections during early pregnancy, which caused great pain and suppuration.*

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* Works, vol. iii. p. 55.

† London Med. Gaz. 1846, p. 688, from Montreal Med. Gazette.

In the case related by Mr. Tompkins, the patient's first labor was a difficult one, and the vectis was used. In the second labor the pains were active for twenty-four hours, and, for four or five, excruciating. At first no os uteri could be detected, but at the end of this time it could be felt the size of a sixpence, and the space within the circle was extremely thin and tough, thinner than the surrounding cervix, and hermetically closing the womb. This membrane was divided with a gum lancet, and in four pains the os was so dilated as to admit the head. The pains now became slight, ergot was given, and she was delivered by the vectis.†

Dr. Hatin's patient was æt. 36, and this was her first child. The waters had dribbled away, but no orifice was discoverable. On the descent of the head, covered by the uterus, a thin portion was felt. A female catheter was passed through this, and then the finger. It tore like a thin membrane, the os dilated, and in an hour and a half labor was terminated.‡

Mr. Tweedie's patient (whose second labor I have already quoted), was æt. 23 or 24. At 7 p. m. she had been in strong pains for about twenty-four hours, pains urgent and painful, and no os uteri to be perceived after several hours. At 2 p. m. a firm globular mass was forced into the vagina by every pain, but there was no break in the cervix. For several hours more the pains were unusually severe: castor oil was given. Where the os ought to have been, there was a minute point, somewhat thinner than the surrounding parts. She had menstruated for fourteen years, the discharge was pale and scanty: no catamenia since her marriage, nine months previously. A copious reddish discharge took place three days before labor. The pulse was 120, 130, and very irritable, pains violent, skin irregularly hot and cold, features anxious. The point referred to was punctured, and an incision made towards the bladder and rectum, of one and a half or two inches; the last incision was followed by a few drachms of dark blood. The operation produced no suffering, the pains abated a little and then returned. At 4 a. m. the next day, under a strong pain, the edge of the incision tore suddenly to the right side, and soon afterward, during an examination, the other, towards the left sacro-iliac junction, both without hemorrhage. She became faint, pulse 140, 150, and stimulants were required. In two hours powerful pains returned, and the head was born at 11 a.m. The pains becoming inefficient, stimuli were given. The child was born alive, and the mother recovered. The vagina was very short after recovery. There was no cervix, but a puckered irregular orifice, admitting the tip of the finger, with three cicatrices radiating from it.*

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* Ryan's Journal, vol. vi. p. 87, from Journal Hebdomad.

† Lancet, 1831–2, vol. i. p. 749.

‡ L'Experience, May, 1839.

In Dr. Waller's case the patient had puerperal fever three years and a half before, followed by a putrid discharge for some months, and afterwards at intervals. The cervix had sloughed away, and her husband (a physician) discovered that the os had become closed by an indurated membrane. She was, as she supposed, three weeks beyond the nine months, and had not felt the child for some time. There had been slight pains a few days before, which continued, but did not increase. Next day Dr. Blundell detected a tendency to a dimple at the side of the os, and introduced a small sound through it. Soon afterwards she had violent bearing-down pains. At midnight there had been some discharge, but no opening was perceptible. The pulse was very rapid, and a most profuse perspiration broke out. She was left, and seen again at 10 a.m. and was then a little more collapsed. At noon the os was found open, but the edges jagged, with a flap of tough granular membrane hanging from the margin; collapse increasing, the hand was introduced, and the child delivered by version. Slight hemorrhage followed the removal of the placenta, and she died in half an hour afterwards. The child appeared to have been dead for some days.†

Two cases are given by Naegelè. In both the os was exceedingly small, and the occlusion was caused by cellular membrane filling up the orifice. The lower part of the uterus was rendered tense and hard, so as in one case to resemble the bag of membranes. One case was fat and plethoric, and although bled four times, blood flowed from the nose and mouth at every pain, and she had been in labor eight days: the other had been in labor two days and nights. In both the membrane was punctured by a female catheter; there was no laceration: they were delivered without assistance, and the children were living.‡ Five cases are quoted by Naegelè in his Thesis. In one the labor commenced August 14; on the evening of the 16th the pains were less pregnant and strong, and she was delirious; on the morning of the 17th she was exhausted and worn out. The womb stretched over the head and attenuated, was pushed almost to the mouth of the vagina, but no os was perceptible. The scalpel was then used for making an os. She was delivered of a dead child by the forceps, and died in the evening, at the end of nearly three days. In two other cases the os was closed by a membrane, united to the margin of the aperture. In one the finger was introduced, in the other the point of a female catheter; instruments were used in neither; both children were alive, and both the mothers recovered. The fourth case was a first pregnancy, during which she suffered from leucorrhœa. Labor commenced August 25. There was no os, and on the 27th one was made by incision; six hours afterwards she was delivered of a living child by the forceps. She recovered well; the os retained the form of the incision, and the next labor was natural. A fifth case was æt. 42; first pregnancy. Labor began May 2: no os could be found. On the 4th an os was made by incision, and in twenty-four hours she was delivered by the forceps.*

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* Guy's Hosp. Reports, vol. ii. p. 258.

† Guy's Hosp. Reports, vol. iv. p. 120.

‡ Ibid, p. 137, from Naegelè's Thesis.

Dr. Gooch mentions a case in his lectures, in which, after miscarriage, extensive sloughing took place, including the os, and leaving a contracted circle as a cicatrix. The head descended low, pushing the lower part of the uterus before it. After a considerable time, the strength being almost exhausted, a puncture was made by a bistoury, and an incision of considerable extent. The head was forced through, rending it right and left. Some alarming symptoms appeared; the head was perforated, and she was delivered. She recovered, and became pregnant again.

A case is related by Mr. Lauverjat of a first pregnancy, in which no orifice to the womb could be discovered after the most careful examination. The vulva was occupied by a solid body, which distended it. On consultation, convinced that the mother and child were in great peril, they decided to make an opening at the place of the os uteri; it was on the point of rupturing, and there was already a rent, involving a part of the thickness of the walls. In this spot an incision was made. Labor terminated spontaneously, and after it no cervix or os could be discovered. After two months the opening closed by degrees, and no accident followed the operation.†

M. Gautier's patient had been in labor fifteen or sixteen hours, and although the head was in the cavity of the pelvis, near the vulva, no os could be felt by the midwife. The pains were very rapid and violent. M. Gautier first supposed it to be obliquity of the womb, but after very careful examination no os uteri could be found. The depth of the vagina was an inch in front, and an inch and a half behind. Vaginal hysterotomy was performed, and delivery effected by the forceps. There was some hemorrhage, but she soon recovered.‡

M. Morlanne of Metz, in his case, found the head, enveloped in the womb, already engaged in the vulva. Notwithstanding most careful examination in all directions, no os could be discovered. He was satisfied that vaginal hysterotomy was the only resource, but did not dare to have recourse to it, because the woman was in the sixth day of an ataxic fever, and therefore had no hope of saving her.*

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* Guy's Hosp. Reports, vol. iv. p. 138, from Naegelè's Thesis.

† Dict. des Sciences Med. vol. xxiii. p. 301.

‡ Dict. des Sciences Med. vol. xxiii. from Journal de Med.

In a case in which MM. Lobstein, Flamant, and Caillet were concerned, the patient was æt. 30, and at the seventh month of pregnancy; in place of the os uteri, was a transverse bridle, apparently a cicatrix. Pains came on April 25, but produced no change in the neck. The 26th passed without any os appearing, though the pains were painful and continuous, and the head was engaged in the pelvis, covered by the womb. The entire hand was employed to explore the vagina to the *cul-de-sac*, and no opening could be found. After being fully eight hours in labor, and the strength beginning to fail, a consultation determined to practice vaginal hysterotomy. This was performed fifty-six hours after the commencement of labor. Pains having ceased for many hours, the forceps was employed. Extraction was very difficult, and the child was dead. Recovery was favorable, but the incision closed so much as scarcely to admit a small sound. Menstruation took place two months after delivery.†

Professor Bedford's patient, the mother of several children, was taken in labor Dec. 18, 1843, at 7 p. m., and was seen by Dr. Bedford next day, at 5 p. m. Her pains were violent, and she suffered intensely. There was obliteration of the os uteri. Dr. B. made a bilateral section of the uterus, and in ten minutes afterwards the patient was delivered of a living child. Both did well, without an untoward symptom. The obliteration was caused by the attempt to produce miscarriage with an instrument.‡

Another case by the same physician, was a first labor, æt. 36. Physician first called at 7 a. m., November 6. Pains were decided and regular, but no os uteri could be found on careful examination. By the evening the pains had increased and become expulsive, but no os could be found by him or Professor V. Mott, who had been sent for. During the night nothing but a globular, smooth, uniform surface could be felt. Was first seen by Dr. Bedford at 1 p. m., November 7, after having been in more or less active labor for forty hours, and there was no trace of an os uteri. Dr. B. made a bilateral section of the cervix, with a probe-pointed bistoury, "to within a line or two of the peritoneal cavity," and the head was felt. The substance of the neck felt like cartilage. At 6 p. m. no increase of the opening; an incision was made in the posterior lip, and tartar emetic given. Nov. 8, at 2 a. m. the incisions were enlarged, and two more made towards the ischiatic lines. At 11 a. m. the openings somewhat enlarged, and the parts hot. At 6 p. m. the strength failed, pulse 140, the head at the brim, the opening of the womb not larger than a dollar, rigid and unyielding. The forceps was applied, and after a great effort the child was born alive. The mother suffered only from inability to pass water for two weeks. Mother and child both well three months afterwards.*

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* Dict. des Sciences Med. vol. xxiii. Journal d'Accouchement.

† Ibid.

‡ New York Journal of Med. March, 1843.

156. *Causes.*—In two of the foregoing cases the lesion of the cervix resulted from previous instrumental labor; in another from inflammation after an ordinary labor; and in another from inflammation following miscarriage. In one case the inflammation was connected with descent of womb. In two cases it was the consequence of attempts to procure abortion; and in one it seems to have been congenital.

157. The actual condition of the parts varies a good deal. We may find the head covered by the cervix, appearing as a globular tumor without an opening, or there may be cicatrices upon this tumor. The tissue covering the head may vary both in thickness and density. The os may be absent, and its situation not marked; or there may be a depression; or an os, with the interspace closed by a membrane. These latter cases have been termed by Naegelè "conglutination of the os uteri," and he considers the false membrane as the result of inflammation of the cervix uteri. The strength of this membrane varies much.

Dr. Ashwell agrees with Dr. Naegelè, and observes that "it is well known that normally this orifice is often very small; at others, instead of a transverse chink—its most usual form—there is merely a diminutive circular aperture. In either of these conditions of the orifice, complete obliteration may be easily produced by an amount of local inflammation following conception, which would not seriously interfere with the pregnancy or health of the individual. It is important to bear in mind that such closure may not be attended by any other disease of the parts, the adhesion may be firm and complete, but there may be no scirrhous induration, no distinct nodule of hard substance; the neck of the uterus will be forced down by the pains; and the sensation imparted to the finger, on examination during labor, will be quite natural, excepting only that no aperture will be found."†

Other writers do not regard the slighter cases as the result of inflammation; thus, Jacquemier observes, "Is there a veritable agglutination? Is this pretended plastic tissue anything more than a portion of exuberant membrane decidua? Do not these cases belong rather to some of those conditions of the cervix which render dilatation very difficult?"‡

So far as I am able to judge, it appears to me that in most of these cases the obstruction is the result of an inflammatory process, although in others it is quite probable that it may have been a congenital malformation.

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* Amer. Journal of Med. Sciences, April, 1848.

† Guy's Hosp. Rep. vol. iv.

‡ Des Accouchements, vol. ii. p. 181.

In the former cases it will be asked, was the inflammation posterior to conception? In many cases this seems probable, but in others very doubtful. If the os uteri be closed before conception, how does impregnation take place? The difficulty here is not greater than in certain cases of occlusion of the vagina which I have quoted heretofore. We must suppose in both cases that some very minute opening, quite inappreciable by a minute examination, still exists, sufficient to admit the ingress of the semen.

158. *Diagnosis.*—At first sight we might suppose that there could be no difficulty in this matter, but in some extreme cases of obliquity it seems to require patience and great care to detect the os uteri. I have never met with such cases myself, but even if minute examination of the entire tumor at the brim should fail to detect an opening, which I can scarcely think, yet as the pains will force it down still further on to the pelvis, if there be space, then at least the os, if there be one, must come within reach.

When the os uteri is extremely minute, some hours may elapse before it can be satisfactorily ascertained, as in the case I have related; but if the pains continue, it will be evident before any constitutional symptoms shew themselves.

159. *Prognosis.* The prognosis in all cases is very serious. The choice seems to be between the natural or artificial rupture of the obstacle, both of which involve considerable danger, or the death of the patient from "powerless labor," if the obstacle is sufficiently resisting or is allowed to remain, or rupture of the uterus: as is shewn by the cases I have quoted.

160. *Treatment.*—In the cases I have quoted we find one in which, on account of the fever present, no interference was attempted, and the patient died undelivered; others in which the patient was allowed to run down to such a degree, that the operation failed to save life. In another class, rather more favorable, the obstruction gave way after many hours of suffering. The inference from these cases would be that we have nothing to gain, and everything to lose, by leaving the case to the natural efforts. It appears to me to be our duty to remove the obstacle as soon as we are satisfied of its existence, and of its power of offering sufficient resistance to the uterine efforts, before the patient's strength is exhausted or constitutional symptoms shew themselves. And the cases I have quoted support strongly this view. In five cases thus treated, both mothers and children were saved: and in four cases the mothers recovered. In two cases only did death occur after vaginal hysterotomy, and in both there had been great delay.

It does not appear that there is more, if as much, danger of an extended laceration after making an incision, than in cases where the obstacle gives way under pressure, and there is no question of the greater chance for the child where the operation is performed early.

I see no objection to the employment of venesection and tartar emetic at an early period of the labor, provided that much time be not lost; but I am quite satisfied that we ought to have recourse to the operation as soon as we have ascertained the probable failure of these and of the natural powers, and long before the symptoms of powerless labor set in.

Having determined upon the removal of the obstacle, we shall have no difficulty in deciding upon the method. If the os uteri be closed by a thin membrane, we may adopt Naegelè's recommendation, and break through it by the finger, the female catheter, or any blunt instrument, as in several of the cases I have quoted.

If we find the membrane too resisting for this, or if we cannot ascertain the limits of the os uteri, we must use a scalpel, and make a lateral, bilateral, or crucial incision of sufficient extent to allow the head to press downwards. It does not appear to occasion either pain or hemorrhage.

If the patient have been much exhausted, the uterine efforts may still be inadequate to the expulsion of the child, and we may have to use the forceps, or in some few cases of imminent danger and difficulty the crochet; but such will be rare if the operation be performed early.

Great care should be taken during convalescence to preserve the os uteri patent; it has a great tendency to close up, and it will be necessary in many cases to use a plug of some kind, a small roll of lint dipped in oil, a piece of sponge, or a bougie.

CHAPTER II.

AMENORRHŒA.

161. The diseases of the uterus may be divided into Functional and Organic.

The functional derangements of the uterus are divided into three classes:

1. Amenorrhæa, including absent, suppressed, and vicarious menstruation.
2. Dysmenorrhœa, difficult or painful menstruation.
3. Menorrhagia, or excessive menstruation, whether blood accompany the catamenia or not.

Power, in his 'Essays on the Female economy,' divides these disorders into three classes—A. Deficiency of the menstrual actions. B. Excess of the menstrual actions. C. Irregularity of the menstrual actions. Denman, Burns, Hamilton, Dewees, Locock, and the generality of British authors, divide the disorders of menstruation as in the text. Dr. Blundell adds a chapter on offensive catamenia. Capuron, Nauche, Boivin and Dugès, adopt a similar division. Carus includes among the irregularities of menstruation, delayed menstruation, incomplete menstruation, too early menstruation, and suppressed menstruation. Siebold has a chapter on the precocious and tardy developement of the menses; on the too excessive, or scanty discharge; on painful menstruation; and on vicarious menstruation. To these Jöerg adds, menstruation repeated too frequently, or not often enough. Mende adopts an arrangement nearly similar. It is impossible to make any arrangement which will include every variety; there will always remain cases belonging to neither class, apparently partaking of the characteristics of two or more, and which nothing but an extended experience can elucidate.

There is a source of error which it is right that I should point out, and no opportunity is so fit as when we are considering the classification of these disorders. The term used by females to express the proper performance of the function of menstruation, is generally "being regular," and as, from the delicate nature of the investigation, both parties are anxious to terminate it as quickly as possible, an assertion of "regularity" is often given and received, when a little more enquiry would have discovered "irregularity" in all the circumstances, except perhaps in the periodical appearance of the discharge. It should never be forgotten, that variations in the *quantity* and *quality* of the discharge are as important, and require as much attention, as any other peculiarity.

162. There are two very distinct classes of *amenorrhœa*: one, where the catamenia have never appeared, and which has received the name of "*emansio mensium;*" and the other, in which, having continued regularly for some time, they have ceased: this is called "*suppressio mensium.*" A third class might be formed, consisting of those cases in which menstruation is irregular, as to time, quantity, or quality, but without actual suppression.

It will be necessary to consider these classes in detail.

163. I. *Emansio mensium, or absent menstruation.*—Great difference exists as to the period of the commencement of menstruation, not only in different countries, but also in our own. The most general age is about fifteen, but it occurs much earlier, or may be delayed to a much later period.* These variations will be found to correspond pretty exactly with the proportionate development of the body and that of the genital system. There are also malformations of the uterine system, which have an important effect upon this function. Lastly, the uterus

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* Theory and Practice of Midwifery, p. 54.

may be acting fairly enough, although the product be not the menses. We shall notice these three varieties somewhat more particularly.

164. (*a*) *Amenorrhœa from congenital malformation.*—The influence of the ovaries upon the menstrual secretion has latterly been a subject of great interest to physiologists. It is now believed that not only are they concerned in the process of generation, but that they are the efficient cause of menstruation.[*] We know that very considerable changes take place in them, as well as in the uterus, at puberty, and at the cessation of menstruation. In Mr. Pott's case, of a female from whom the ovaries were removed, menstruation ceased, although previous to the operation it had occurred, accompanied with all the signs of puberty. Cases have occurred where the ovaries have become diseased, so that their structure has been completely destroyed or atrophied, and the effect had been the same; and in some cases of persistent amenorrhœa, which have been examined after death, the ovaries were absent. From these cases, it is clear that absence of the ovaries may be the cause of amenorrhœa.

The patients with whom this is the case may have the body generally well developed and healthy, the circulation active and regular, and the organic functions (save one) fully performed. But the breasts are not prominent; the genital characteristics and sexual propensities are not developed; the voice is deeper than usual; a slight beard appears on the upper lip, and there is a mixture of masculine with feminine peculiarities.

But although the ovaries be well developed, other organic deficiencies may equally give rise to amenorrhœa. The uterus may be irregularly or incompletely developed,[†] or absent altogether:[‡] the canal through the cervix may be impervious, or the os uteri may be covered by a membrane; the vagina may be absent, the sides adherent, or the orifice closed by adhesion, false membrane, or an imperforate hymen.[§]

When the uterus is absent altogether, the development of the body generally may be unaffected, and the health may be perfect; but in other cases, where the *exit* only of the menses is prevented, the secretion may take place, distending the uterus to an alarming degree. The health in these cases suffers much; the outward signs of puberty are present, but the patient becomes pale, thin, and delicate, loses her appetite, has pain in the back and abdomen, increased every month, with the addition of an endeavour to force downwards. The abdomen also increases in size, and becomes tender. These periodical efforts at menstruation will enable us to distinguish between absence of the uterus or ovaries, and an imperforate passage; and in all such cases, where the *molimen* exists without the discharge, a careful examination should be made.

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[*] Theory and Practice of Midwifery, p. 60.

[†] Siebold, Lauth, Stein, Chaussier, Andral, Lisfranc, &c.

[‡] Dr. Chew, American Jour. of Med. Sciences, May, 1840.
Lond. Med. Journal, vol. ii. p. 178.
Lancette Française, March, 1839.
Ed. Monthly Journal, March, 1853.
Med. Times and Gazette, p. 230, Dec. 29, 1855.

[§] Ante, p. 123.

165. *Treatment.*—It is clear that nothing can be done when the uterus and ovaries are absent, or when the structure of the latter has been atrophied or destroyed.

But where an obstacle exists to the escape of the menses, it may in most cases be removed, as I have shewn in the last chapter.

If the vaginal canal be obliterated, an artificial one may be formed with the knife, if the space between the rectum and vagina permit; if not, the parts must be gently torn asunder, as in M. Amussat's case, related in a former page; care being taken to keep the new canal distended by bougies, a sponge-tent, or a roll of linen. If this cannot be done, the uterus may be punctured from the rectum, and the contents thus evacuated.*

Great care and attention will be required, after these operations, to prevent serious consequences. Leeches, cold applications, fomentations, or poultices may be necessary, with the internal exhibition of opiates and laxatives. When adhesions or false membrane uniting the opposite sides of the vagina, or imperforate hymen, prohibit the emission of the menses, our first attempt should be to rupture them, by separating the labia and vagina; if we fail in this, the bistoury or trocar must be used, great care being taken to avoid injuring the neighbouring parts.

A quantity of dark-colored fluid generally escapes at the time, and continues running for some days until the womb is emptied, and, at the next period, menses of a natural character are discharged, and the health is gradually restored. It will be necessary to syringe the vagina with warm water, and to apply a broad binder round the abdomen, by way of support. When all danger of local inflammation is past, some tonic medicine (especially the preparations of iron), may be given, and generous diet, with wine, allowed. The bowels must be kept free, and in due time air and exercise should be taken, and any other means adopted which may be calculated to improve the general health.*

166. *(b) Simple amenorrhœa.*—Before we can pronounce any case to belong to this class, we must ascertain that the development of the uterine system is in proportion to that of the body generally, *i. e.* that the external signs of puberty are present, and that no discharge what-

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* Ante, p. 57.

ever escapes from the vagina. Of this latter condition we shall speak more fully hereafter; but if the former be absent, it is evident that we have no ground to expect the establishment of the menstrual function, and that the case is rather one of protracted puberty than of amenorrhœa.*

We must also be on our guard lest the case be one of congenital malformation, such as I have already described.

The subjects of the simple form of amenorrhœa may be either of a plethoric habit of body and robust health, or weak, pale, and delicate in constitution; and the symptoms vary in each†. In the former, the constitutional suffering is more severe, with considerable febrile action, flushed face, quick full pulse, thirst, &c. In the latter, the sympathies of distant organs are manifested more slowly, and there is little or no fever, the pulse being small and moderately frequent, and there being neither thirst nor heat of skin. In fact, they appear to have a relation to each other, something like the acute and chronic stages of other diseases. In both, the attempt at menstruation may be made each month, accompanied by shiverings, pain in the back and loins, weight at the lower part of the abdomen, aching down along the thighs, general lassitude and uneasiness, and sometimes pain in the thyroid gland. These symptoms, after lasting a day, pass away without any menstrual secretion, and are repeated each succeeding month. But the effects of this abortive effort are not so temporary; severe headaches occur occasionally, sometimes with intolerance of light and sound; the patient complains of throbbing and a sense of fulness in the head, pain is felt in the side, the stomach and bowels become irregular in their functions, the countenance pale, and strength much reduced. Paroxyms of dyspnœa and hysteria come on, and the patient has the appearance of confirmed ill health.† I have already said, that these symptoms differ somewhat in persons of opposite constitution, though the amount of suffering may be equal; and I repeat that all these symptoms may present themselves when an obstruction to the escape of the catamenia exists.

Cases, however, are occasionally met with, in which this variety of amenorrhœa has existed for several years without any ill effects;‡ but some of these persons seem liable to sudden and severe attacks in other organs. Nauche records two such cases, where the patients died suddenly of a disease in the head. Excessive discharges of another kind also confer a temporary immunity from the immediate consequences of amenorrhœa. As a general rule, of course such patients, if married, do not conceive; there are, however, a few exceptional cases on record. A case of this kind is mentioned, æt. 35, the mother of three children, and in whom neither menstruation nor any vicarious discharge ever occurred.*

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* Dewees mentions four conditions under which the menses are tardy in appearing. 1. When there is little or no development of the genital organs. 2. When it takes place very slowly. 3. When it is interrupted by a chronic affection of another part. 4. When perfect development has taken place, and yet the menses are absent.—*Diseases of Females*, p. 107.

† See the chapter on 'the constitutional effects of disorders of menstruation.'

‡ At a meeting of the Westminster Medical Society, Jan. 15, 1839, Mr. Harrison enquired if any gentleman knew an instance in which

I have repeatedly examined the uterus of patients laboring under amenorrhœa: the cervix has generally appeared small and more pointed than usual during the interval; but in all these cases a small-sized bougie could be introduced into the cavity, without pain or difficulty. During the menstrual period, an enlargement of the cervix takes place, varying in amount in different individuals.

167. *Causes.*—"The causes (says Dr. Locock) of this condition are generally to be found in the previous habits of the patient; for it is most frequently met with in those who have led sedentary and indolent lives, who have indulged in luxurious and gross diet, and been accustomed to hot rooms, soft beds, and too much sleep."† Dr. Mackenzie has shown that all the menstrual disorders, but especially amenorrhœa, may arise from disorders of the digestive system.‡

168. *Pathology.*—Various explanations have been attempted of the proximate cause of this disease, but they have all the appearance of being the consequence of the theoretic views of their respective authors, rather than the result of patient observation. Some have attributed it to a torpor of the secerning vessels, others to a spasm of their extremities, and a third party to excessive 'engorgement.' The question is very difficult, if not impossible to decide, in the present state of our knowledge; but it appears very probable that in many cases the disease depends upon some condition of the ovaries.

169. *Diagnosis.*—The only point for our decision is, whether the case be one of simple amenorrhœa, not arising from congenital malformation, nor complicated with other diseases. An examination, if there

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the mother of a large family had never menstruated? He had known such an instance. Dr. Johnson had never seen an instance of the kind. He had, however, under his care at present some members of a family, in which there were five daughters, whose ages ranged between 26 and 13, who though in excellent health had never menstruated.—*Lancet*, Jan. 19, 1839. See also a case by M. Kruger-Hausen, quoted from Graefe and Walther's Journal, in Ed. Med. and Surg. Journal, Oct. 1840, p. 507.

* British and For. Med. Chir. Review, April, 1850.

† Cyclopedia of Pract. Med., art. Amenorrhœa, vol. i.

‡ On the Relation of Uterine to Constitutional Diseases, 1852.

be periodical exacerbations, will detect an obstruction; and if the health be affected, and the monthly return marked, with no local impediment, we shall have reason to assume the integrity of the principal organs, and may fairly conclude the complaint to be the one at present under consideration. The most frequent complication is that of uterine leucorrhœa, which will form the next subject of investigation.

170. *Treatment.*—I cannot agree with those writers who speak as if amenorrhœa were a complaint easily manageable. My own limited experience has led me to believe every variety difficult to remedy, though some are more amenable than others, and some cases more than others. The treatment must be varied according to the constitution of the patient, and according as it may be undertaken during *an interval*, or at a *menstrual period.*[*]

If the patient be of a full habit, with a florid complexion, &c. and we find the symptoms indicating uterine effort present, venesection will very often afford relief. Cupping the loins, or the application of leeches to the cervix uteri[†] or vulva, is a better method of abstracting blood. This must be followed, during the *interval*, by a diminution in the quantity and quality of food, with a total abstinence from stimulants. As much exercise as possible shóuld be taken, provided the patient do not over-fatigue herself. A brisk purgative may occasionally be necessary,[‡] and moderate doses of aloes, in combination with rhubarb and assafœtida, two or three times a week, have been found very useful. By these or similar means, the plethora of the system will be relieved, and a better state of health induced. On the approach of the next menstrual epoch, the feet should be put into warm water every evening, or the hip-bath used occasionally. In many cases the menstrual discharge will be established without further trouble.

When, however, the patient is of a weak, nervous, or leuco-phlegmatic constitution, the object will be to strengthen the system by a well-arranged nutritious diet, and a moderate use of wine. Exercise should be taken, but in the least fatiguing mode. Preparations of iron, such as the carbonate, sulphate, oxysulphate, or Griffith's mixture, and chalybeate mineral waters, are among the most powerful remedies we possess. They should be given in tolerably full doses, and pushed as far as may be deemed advisable. M. Raciborski agrees with MM. Quevenne and Miquelard in preferring the metallic iron in a very minute state of division. M. Selade considers the proto-muriate or hydro-chlorate, the carbonate, and the lactate of iron, the most useful preparations. He believes that the iron enters into combination with the free muriatic acid of the stomach.* I have found the carbonate answer the purpose better than any other.

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[*] Medical Commentaries, vol. ii. p. 51; vol. v. p. 121. Waller on Diseases of Women, p. 30.

[†] Med. Chir. Review, July, 1839, p. 222. M. Tanchon, Lanc. Française, Dec. 1838.

[‡] Ed. Med. and Surg. Journal, vol. iv. p. 279.

If the suffering at the monthly period be great, narcotics, or antispasmodics may be given, nor have I found them tend to diminish or suppress the discharge, but rather the contrary. Their constipating effects will, however, require correction.

171. Although this general plan of treatment often succeeds, still there is a large class with whom it does nothing more than improve the general health. With such we must have recourse to *emmenagogues*, or those remedies which are supposed to possess a specific power over the uterine secretion. By the older writers† a great number of such agents are mentioned, but according to modern experience, the list is by no means a long one.

Warm hip-baths, leeches or poultices to the breasts, leeches to the cervix uteri, or vulva, have been advised by Nauche, Siebold, Rostan, Tanchon,‡ Cormack, &c. Electricity, or galvanism, or electro-magnetism, directed through the uterus and ovaries, by Muyduyt, Austen,§ Nauche, Alberti, Recamier, &c. Dr. R. Macdonnell of Montreal has published some cases in which it was very successful.‖ Dr. Bennett of London mentions that he has found it very useful.¶ I have seen it used in several instances with benefit. Dr. Tilt exhibited to the Med. Society of London, an apparatus of M. Recamier which he calls a galvanic cataplasm, consisting of copper and zinc. By dipping them in vinegar and water and applying them to the skin a sensation of warmth and prickling is produced; and by the galvanic action thus generated, he states that he has succeeded in re-producing menstruation.** The principle of Pulvermacher's electric chain appears to me to be similar. Dr. Simpson uses a kind of galvanic pessary, the stem of which consists of zinc and copper, the upper portion zinc and the lower copper. This is introduced and left for some time, and he speaks most favorably of its effects in causing menstruation, and also in developing the uterus, in cases where it is incomplete.

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* Archives gen. de. Med. Belge, Feb. 1845.

† Dr. Richard Carr, in his "Epistolæ Medicinales variis occasionibus conscriptæ," speaks of coffee as an emmenagogue, in the following words: "Mulieres Arabes semper dum fluent menses hujus decocti ferventis multum paulatim sorbillantes eorum evacuationem adjuvant, et quibus suppressi sunt ad provocandum," p. 27. The book is without date, but was published some time after the year 1691. I am indebted to my friend Dr. A. Smith for the above extract.

‡ Lancette Française, Dec. 1838,

§ Ed. Philos. Essays, vol. iii. p. 116. Ashwell on Dis. of Women, p. 74.

‖ British American Med. Journal. Dublin Medical Press, Aug. 12, 1846.

¶ Lancet, 1852, p. 353.

** Med. Gaz. June, 1851.

Frictions to the loins, with stimulating liniments, are sometimes of use, and formerly the crural circulation was arrested by pressure, in order to cause an accumulation of blood in the uterus, and consequent menstruation. Local irritation of the uterus, by the introduction of bougies, or by injections of stimulating lotions into the uterus, has been recommended. Lavagna and Melier recommend a lotion, composed of a few drops of liq. ammoniæ to an ounce or two of milk, by which they are said to have brought on menstruation.* Dr. Hosack succeeded by this means in one case.† Dr. Blundell speaks favorably of its effects as a vaginal injection merely: in the hands of the late Dr. Hunt it failed.

Dr. Simpson has tried congestion and irritation of the mucous membrane of the uterus, produced by the introduction of a silver catheter, with a number of perforations at its inner extremity: to this an exhausting syringe is fixed, and the air repeatedly exhausted. When withdrawn, the extremity of the catheter is filled with blood, and in many cases the artificial menstruation thus established is continued naturally. I am told that it is even more successful in suppressed menstruation, and I have not heard of any ill effects from it.

Others have applied irritation to the membrane of the cavity, by means of nitrate of silver, but I am not aware with what good effect.

Mr. Houlton states, in the Medical Times, that he has had frequent opportunities of watching the medical action of the chenopodium olidum, and is perfectly convinced that it is a very safe and important remedy, in many cases in which the catamenial function is not duly performed. He employs the spontaneously evaporated extract, in the form of pills, from four to ten grains, night and morning. In general, if the pills are taken separately for a fortnight previously to the expected return, the beneficial effect of the medicine is manifested; if not, he repeats them a fortnight before the next period.‡

M. Kastner has spoken very highly of the bark of the prunus laurocerasus; he gave a pint of the decoction, made with two ounces of the bark, daily.§

Iodine has been extensively tried, and in many cases successfully; ‖ but I do not think it has fulfilled the expectations which were formed of it. The best form is that of the tincture, in combination with the hydriodate of potash; from ten to twenty or thirty drops may be given two, three, or four times a day.

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* Lancet, vol. i. p. 497.

† Dewees. Diseases of Females, p. 126, *note.*

‡ Rankin's Abstract, vol. v. p. 146.

§ Northern Journal of Med. Jan. 1846.

‖ Dict. de Med. et de Chir. Prat. p. 120, art. Iode.

That ergot of rye will originate and augment uterine contractions is known to all, and also that it will control inordinate discharges therefrom; but upon what principle it could be supposed to possess the opposite power, viz., that of exciting or increasing the menstrual secretion, I do not know. Yet Drs. Dewees and Locock,[*] MM. Roche,[†] Nauche,[‡] and Pauly,[§] state that it has been successful in their hands, and recommend its employment. I tried it in consequence of the high authority of these writers, but it failed, as in truth I expected it would. It may be given in doses of five grains of the powder, three or four times a day. It will be rendered more palatable, and less likely to disturb the stomach, by being boiled in a little milk. Nauche advises its combination with rhubarb or some mild purgative. During its exhibition, the patient should be carefully watched, and the medicine be suspended, if pain be excited in the uterus.

Strychnine was, I believe, first introduced to the notice of the profession in this country, as a remedy in amenorrhœa, by Sir James Bardsley of Manchester.[‖] Out of twelve cases related in his work, ten were cured, and two relieved; and to this number I can add several cases in which the cure was complete and permanent. It is fair to add, that Sir James Bardsley's cases were of *suppressed* menstruation; but there is no reason for doubting the equal efficacy of the remedy in simple amenorrhœa.

The dose of the medicine varies from one-twelfth to one-tenth or one-eight of a grain three times a day. Its exhibition requires great caution, and its use should be suspended if it occasion any twitching or starting in the muscles. The *modus operandi* of it is difficult to explain. Sir James Bardsley conceives it to act by stimulating the vessels of the uterus, and improving the tone and vigor of the system.

Madder is said by Home[¶] and Dewees to be exceedingly active, and especially useful, "in cases of great irritability of the system, or where there may be slight febrile paroxysms."[**] Dewees gives it in the form of decoction—a pint of water to an ounce of powdered madder, and a scruple of bruised cloves—a wine-glass full to be taken every three hours.

Dr. Dewees also speaks very highly in favor of cantharides, and the volatile tincture of guiacum;[*] and his opinion is to a great extent confirmed by Drs. Jewel and Macleod.[†]

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[*] Cylop. of Pract. Med. vol. i. p. 70. Ashwell, Diseases of Females, p. 79.

[†] Nouv. Dict. de Med. et Chir. art. Ergot.

[‡] Mal. des Femmes, vol. ii.

[§] Lisfranc. Mal. de l'Uterus, p. 183, *note*.

[‖] Hospital Reports, p. 57.

[¶] Med. Commentaries, vol. vii. p. 217.

[**] Diseases of Females, p. 112.

M. Carron du Villards has used the cyanuret of gold successfully, beginning before the expected menstrual period. The mixture he prescribes consists of three grains of the cyanuret to eight ounces of alcoholized water; a tea-spoonful may be given twice a day, gradually increasing the dose.

Other remedies act upon the sympathies of the uterus by stimulating the neighbouring organs, the rectum and bladder; as, for example, aloes, melampodium, &c. or turpentine, savine, and some of the balsams. These have all been found useful, and may be employed by the practitioner according to the circumstances of the case.

Dr. Locock[‡] speaks highly of a combination of myrrh, aloes, sulphate of iron, and essential oil of savine.

Dr. Loudon derived benefit from applying leeches to the breasts, and Drs. Dewees[§] and Paterson, from the application of blisters. The irritation so excited seems to exert a sympathetic influence over the womb. Sir James Murray[‖] (and Aristotle before him) found similar effects follow the application of exhausting glasses to the breasts. Siebold[¶] recommends warm fomentations to these parts.

The leaves of the castor oil plant applied as a poultice to the breasts have been lately much lauded; but as Dr. Cormack has observed, leaves of other plants also answer very well, and it is very probable that the good effect is less due to the plant than the poultice.

M. West de Soult has published some facts in favor of the efficacy of aconite.

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[*] "The mode of using it is, a teaspoonful every morning, noon, and evening, in a wine-glass full of sweetened milk; or, when not forbidden by some peculiarity of circumstances, as much white wine, Sherry, Teneriffe, or Madeira." The dose is to be gradually increased. The formula is as follows:

"Pulv. G. Guiaci opt. . ʒiv.
Carb. Sod. vel. Potass. ʒiss.
Pulv. Pimento. . . . ℥i.
Alcohol. dil. . . . ℔i.
Digest for a few days."

"The volatile spirit of ammonia is to be added, pro re natâ, in the proportion of a drachm or two, to every four ounces of tincture; or less or more, agreeably to the state of the system."—*Diseases of Females*, p. 124.

[†] Lond. Med. Journal. vol. i. p. 93; vol. ii. p. 230.

[‡] Cyclop. of Pract. Med. vol. i. p. 69.

[§] Diseases of Females, p. 126.

[‖] Obs. on the Med. and Surg. Agency of the Air Pump, p. 40.

[¶] Frauenzimmerkrankheiten, vol. i.

Dr. Hannay of Glasgow* succeeded in developing the catamenia by the exhibition of the ammoniated tincture of guiacum, but failed entirely when he had recourse to Dr. Loudon's plan.

Dr. Shonlein of Wurtzburg speaks of an enema, containing twelve grains of aloes, administered about the time when the menses ought to appear, as the most certain kind of emmenagogue.

This list of remedies, which might easily be tripled in length, would alone prove a fact which experience must have taught every practitioner, that many of these cases are amongst the most obstinate and intractable they meet with. In fact, it is easier to manage almost any of the other curable diseases to which females are obnoxious.

172. (c.) *Amenorrhœa, with vicarious uterine leucorrhœa.*—This variety differs most essentially from the preceding. In them the uterine system was quiescent, the uterine function altogether absent; in this, on the contrary, the uterus is often in a state of full and regular action. It is true, that in the ordinary sense the case is one of amenorrhœa, because the *red* menstrual discharge does not appear; but a more accurate investigation will show that the uterus is secreting a *white* fluid. The womb is not in fault, but probably the '*materiel*' upon which it is operating, as the subjects of this form are generally in delicate health. On this account, the establishment of menstruation is looked for with great anxiety, as a kind of crisis when their future good or bad health will be determined. Upon inquiry, we shall be told that the *symptoms* usually accompanying menstruation have appeared, and perhaps have recurred several times with great regularity. The patient has had periodical pain in the back and loins; langour, weariness, weight at the lower part of the abdomen, &c., and yet you are given to understand that she has not been "unwell," "regular," or "as she ought to have been." Now, as great mischief may be done by treating these cases as simple amenorrhœa, a more minute investigation must be made, and we shall find that at each of these periodical attacks there was a white discharge from the vagina. This fact is occasionally mentioned by the old writers, and by some of the more modern,† but its importance seems scarcely to have been duly estimated. In truth, it decides for us the question of congenital malformation, as well as proves that there is no torpor of the womb;

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* Dublin Journal, Sept. 1836, p. 149. Ibid. March, 1837.

† Dr. Freind speaks of "lymph-like menses." Astruc distinctly states that leucorrhœa takes place of the menses; and Nauche says that this is a salutary effort of nature, and to be respected; and he mentions that in 1824 he was called to see a young lady, aged 24, of a strong constitution, who had never menstruated. Instead of the catamenia, there was secreted every month a quantity of white opaque

and all that remains for us to attempt is the conversion of the white into a red secretion.

This vicarious uterine leucorrhœa, I have already stated, occurs at the commencement of menstruation, chiefly in delicate young females; it may give place to the red discharge at the second or third period, or it may continue to supply its place for six months or a year. The period of its duration will greatly depend upon the success of our efforts to improve the health. It may likewise return for one or two periods after proper menstruation has taken place, or it may alternate with it. The white discharge lasts three or four days in most cases, and the amount is probably nearly equal to the early secretion of the catamenia; but with some patients there is no distinct interval, more or less of the discharge continuing from one period to another, diminishing after and increasing again before each period. In these cases it is probable that the leucorrhœa is not merely a vicarious secretion, but that there is, in addition, a disordered state of the lining membrane of the uterus.

When the discharge subsides after three or four days, and the integrity of the interval is preserved, the constitution is scarcely, if at all, affected; the patient may be weakly, and incapable of great exertion, and the organic functions generally may be somewhat *below par*, but still her health is probably not worse than for some time previously. This state of neither good nor bad health may continue for a long time, and it will seldom be found that any decided change for the better takes place until the uterine function is perfected.

When the uterine leucorrhœa, however, is persistent throughout the interval, the local symptoms are more prominent, and the constitutional suffering greater: there is pain in the back, aching and weakness across the loins, occasional pain in the side or chest, frequent headaches, loss of appetite, irregularity of the bowels; in short, the symptoms more or less complete of uterine leucorrhœa, and requiring the treatment adapted to that disorder.

173. *Causes.*—The proximate cause of this variety of amenorrhœa will probably be found to exist in the condition of the circulating fluid, and not in the secreting apparatus: the addition of a low degree of irritation or inflammation of the lining membrane of the uterus will account for the persistence of the "whites" throughout the interval.

Diagnosis.—The presence of the leucorrhœa will elucidate the nature of the amenorrhœa, and its periodicity will point out its uterine origin.

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mucus, which appeared to answer the purpose of menstruation very well.—*Mal. Propres aux Femmes*, vol. ii. p. 646.

Dewees also refers to this class as instances of slow development or vicarious secretion. Diseases of Females, p. 109. See also Joerg's Krankheiten des Weibes, p. 136.

174. *Treatment.*—It is clear, that in this variety our attention must be directed to the improvement of the general health, rather than to the uterine system. For this purpose, the diet of the patient should be so managed as to give the *maximum* of nutrition with the *minimum* of digestive labor. As the stomach is delicate, we must be cautious not to overload it. Broths and jellies may be given, or solid food, if preferred. It is much better to give food frequently, and in small quantities, than to allow full meals at distant intervals. Wine in moderate quantity may be permitted. As much exercise in the open air should be taken as is consistent with avoiding fatigue: and in some cases, horse exercise has appeared the best mode. Occasional purgatives will be necessary, and those containing aloes answer remarkably well, from the local sympathetic irritation they excite. Dewees recommends the tinct. cantharidis, which he gives in doses of thirty drops three times a-day. Tonics, especially those from the mineral kingdom, are very useful; and of all that I have tried, I have found the different preparations of iron the most beneficial. Pediluvia should be ordered every night, just before the return of a menstrual period.

The judicious application of the treatment just detailed will seldom fail in improving the general health, and that is certain to be followed by the establishment of normal menstruation.

175. *Amenorrhœa suppressa — suppressio mensium — suppressed menstruation.*

We next come to consider those cases where the flow of the catamenia, having been for a longer or shorter time established, has been arrested. This may happen at any period of menstrual life, and it may take place suddenly or very gradually, or, in other words, it may be *acute* or *chronic*.

(*a*) *Acute suppression of the menses* may occur from cold caught during menstruation, in consequence of wet feet;* from a bodily or mental shock,† received either just previous to, or during the menstrual flow; from mental distress or the depressing passions; from sexual intercourse during the flow of the catamenia; from fever, or any severe disease setting in at that period, or just before it.

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[*] It has been stated to me on good authority, that the bathing women at the sea-side do not refrain from following their occupation during menstruation, and that, as a general rule, the menses are not affected by it.

[†] I have known this to occur upon a very extensive scale. Almost all the women who are sent up to the Richmond Penitentiary (near this city), after being at the Recorder's Court, labor under suppression of the menses, in consequence of the mental agitation and distress they have undergone.

176. *Symptoms*—The amount of disturbance consequent upon the sudden suppression of the menses varies very much. In some cases, no ill effect follows for some time, but most frequently a degree of fever arises, with head-ache, hot skin, quick pulse, thirst, nausea, &c.; or the patient may be attacked by local inflammation, either of the brain, lungs, intestinal canal, or of the uterus itself. Occasionally, instead of inflammation, the womb is attacked by neuralgic pains of considerable severity. But the most puzzling of all these sequelæ is a species of hysteria, simulating inflammation, but without the usual accordance of symptoms, (some one or other of the more important being absent), and changing from one organ to another as soon as our remedies are brought to bear upon it. I have seen the head, lungs, and stomach successively thus affected, and suddenly, and apparently spontaneously relieved. The patient is very liable to attacks of fainting and hysteric paroxysms. Capuron mentions that attacks of apoplexy and paralysis sometimes result from sudden suppression of the menses. Other authors state that aphonia, derangements of vision, amaurosis* and cutaneous disorders, follow from the same cause.

177. There are two circumstances, however, which may occur, and either of which, will considerably mitigate the severity of these secondary attacks: I refer to vicarious menstruation, as it is called, by which the temporary plethora of the system is relieved, but without any evidence of a return to a healthy state on the part of the womb; and to uterine leucorrhœa, which appears to afford relief also, and more naturally, inasmuch as the uterus being in action, even though the product of that action be faulty, gives more hope of the re-establishment of the healthy function than when that organ is perfectly quiescent, and, as it were, paralysed. It sometimes happens, when the patient's health has suffered much, in consequence of the suppression, and when the white discharge has appeared instead of the menses, that the leucorrhœa returns regularly for successive periods, thus increasing the delicacy which was its primary cause, and offering an obstacle to our efforts at improving the general health.

It need scarcely be stated, that a return of the menses, either immediately or at the next monthly period, is the best remedy for the secondary symptoms, although in some cases a delicacy will remain for a time. Sudden suppression of the menses must be regarded as a much more serious disorder than any other form of amenorrhœa, on account of the secondary attacks, some of which have occasionally terminated fatally. Either acute or chronic suppression must be generally regarded as a temporary impediment to conception, although exceptional cases occur now and then.

178. *Diagnosis.*—There can be no difficulty in ascertaining the fact

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* Browne. Ed. Med. and Surg. Journ. vol. xxvi.

of the suppression from the patient's account, but it may be a matter of some difficulty, as assuredly it is of great importance, to distinguish between the local inflammatory and hysterical attacks which supervene on the primary affection. This will be best done by estimating carefully the accordance of the symptoms or their inequality. The local and general symptoms will be found to correspond, or nearly so, with each other, and with the state of the organic functions, when the disease is inflammatory; but when it is hysterical, although the pain and local distress may equal that arising from inflammation, the pulse will be found little affected, and the functions of the organs scarcely, if at all, impaired. Notwithstanding all our efforts, however, from the irregularity of some inflammatory attacks, there will be cases about which we may be doubtful; and when this uncertainty exists, we shall do wisely to treat them, at least at first, as inflammatory.

179. *Treatment.*—The acute form, according to Capuron, is much more easily cured than the chronic.

The first *indication* is, if possible, to recall the discharge, and for this purpose the patient should take a hip bath, or put the feet into warm water, and swallow some hot drink, as a bowl of whey, thin gruel, &c., and some mild diaphoretic medicine may also be useful. Gentle purgatives will be beneficial. I have myself succeeded several times with spirits of turpentine. But it must be remembered, that if we produce purging to any extent, we shall defeat our object, as copious discharges of any kind are apt to supersede menstruation; and in these cases, by relieving the constitution, would prevent any effort on the part of the uterus.

Should our attempts to recall the discharge be unavailing, we must wait for the *next period* for this purpose, and in the mean time afford all the relief in our power to the secondary attacks. If there be local inflammation, or if fever arise, they must be treated according to the method usually recommended for such diseases irrespective altogether of their cause.

The state of general plethora, which sometimes results from arrested menstruation, independent of local disease, will be removed by loss of blood. It may be a question whether small and repeated bleedings are not preferable to the loss of a great quantity at one time; and in deciding upon the amount, some regard must be had to the general character of disease prevailing, and its tolerance of active treatment. If adopted early, it may prevent the local disorders to which I have referred, as well as relieve the constitution generally.

The hysterical affection of different organs will be combated most successfully by counter-irritation, opiates, antispasmodics, or what are called nervous medicines, such as assafœtida, musk, castor, camphor, &c. and by aloetic purgatives.

Upon the *approach of the next period*, great attention should be paid to the patient, and every means put in practice which may be likely to facilitate the normal secretion. The bowels should be kept free, the surface comfortably warm, and the hip bath or pediluvium used alternate nights. The strength, if necessary, must be supported by a generous but not stimulating diet. If at the proper time menstruation be established, our anxiety will be at an end; but if merely a white discharge be thrown off, we must again, during the interval, put into action all means before recommended in cases where uterine leucorrhœa is vicarious of the menses. If the white discharge persist during the interval, the case must then be treated simply as uterine leucorrhœa. But if no discharge at all, neither red nor white, appear, and if the general condition of the patient, and her freedom from local disease permit, we may have recourse to some of those specific remedies which were mentioned when considering the treatment of simple amenorrhœa.

180. (*b.*) *Chronic suppression of the menses* may be the issue of an acute attack, or it may arise from the gradual supervention of delicate health, from disease of the ovaries, uterus, or other parts; it may also be the termination of the menstrual function, either before or at the usual age. The quantity of the secretion may diminish, and the time become irregular and uncertain, until at length the uterus altogether ceases to act. This is one way in which the disease comes on; but we find more frequently, I think, that the menses are supplanted by the white discharge. They diminish in quantity, and become of a paler color and with shorter intervals, and then a *menstrual period* arrives, during which the patient finds the excreted fluid perfectly colorless—the next period again being marked by the colored discharge. Thus the patient may go on alternating, with a gradual but steady diminution in the quantity and color, until the leucorrhœa becomes permanently established.

181. *Symptoms.*—As to the symptoms to which this chronic suppression gives rise; when it is merely the subsidence of an acute attack, we shall find pain in the head, side, and back, deficient appetite, and a failure of the vital powers, ending in a confirmed deterioration of health, most favorable to the incursion of some of the fatal organic diseases peculiar to the climate. When the menses are superseded by leucorrhœa, the symptoms of the disorder will be present.

If the menses neither occur during suckling, nor for some time afterwards, and the health appears to suffer, without the symptoms of pregnancy, we should bear in mind, that in consequence of inflammation following the delivery, some portion of the canal in the cervix, the os uteri, or the vagina, may be obstructed or obliterated, and an examination should always be instituted to ascertain the state of the parts. The introduction of the finger will satisfy us as to the vagina;

but the permeability of the canal through the cervix can only be determined by passing a moderate sized bougie through the os uteri—this however should never be done without our having good reason for disbelieving that the patient is pregnant.

182. *Diagnosis.*—The most important decision we have to make is between this *chronic suppression* and *pregnancy*. If the patient be in a situation to have children *creditably*, she will undoubtedly mistake the suppression for the first symptoms of pregnancy; and it will sometimes be rather doubtful, even after a careful examination. The arrest of menstruation, occasioned by conception, is generally accompanied by other unpleasant symptoms, and is shortly followed by the morning sickness, and an alteration in the volume of the breasts, and in the color and sebaceous glands of the areolæ. These, with other circumstances peculiar to the case itself, are the principle grounds upon which our diagnosis must be founded.

183. *Treatment.*—Whenever the suppression is consequent upon disease of the genital system or of other parts, our attention must be directed to such disease, and we shall generally find that on the patient's recovery, the catamenia will return. Where the menses have been superseded by 'whites,' the proper treatment of the uterine leucorrhœa will almost always be followed by the restoration of the uterine function.

When the suppression is uncomplicated, it may be advisable to try the remedies recommended for simple amenorrhœa.

But additional caution will be necessary, with a careful estimate of the general condition of the patient, and an internal examination, previously, to ascertain that there be no organic disease of the womb, and also the probability of the case being one of premature but normal cessation of the menses.

184. 3. *Irregular menstruation.*—In this class of patients, which is very large, the catamenia are not suppressed, but they occur irregularly, both as to *time*, *quality*, and *quantity*. The *intervals* may be shortened or lengthened, the amount greater or less than usual, and the discharge varying in its characteristics, but alternating with periods of perfect regularity.

185. *Symptoms.*—The symptoms in these cases differ in degree only from those in the other varieties of amenorrhœa. Occasional headaches, dyspepsia, pale complexion, constipation, pain in the back, sides, &c., with intervals of better health, answering to the periods of the correct performance of the uterine functions.

186. *Treatment.*—A modification of the treatment recommended for amenorrhœa will generally be appropriate, and in most cases successful. The preparations of iron are the most useful; but if there be an objection to their exhibition, other tonics may be given. Should these fail, we may then cautiously employ some of the emmenagogues, and undoubtedly the best of them is active exercise in the open air.

187. I have now described the principal varieties of Amenorrhœa, with the causes and symptoms most usually observed; I have hitherto deferred mentioning some occasional causes which I have found to produce the same effects, as well as some unusual symptoms, because they have occurred to me too seldom to justify any general inferences, and also in order that there might be less difficulty in clearly remembering the ordinary cases. I have several times seen hemorrhage during childbirth followed by amenorrhœa (the patient *not* giving suck) for many months. A similar consequence has resulted from puerperal fever, especially in that form in which the substance of the uterus is chiefly affected. In two cases of fibrous tumor of the fundus uteri under my care, though apparently unconnected with the lining membrane, amenorrhœa gradually supervened, though with less distressing symptoms than usual. Among the less frequent symptoms may be enumerated, effusion into the peritoneal cavity, and still more rarely into the pleura. The absorption of the fluid takes place rapidly when the menses re-appear. The action of the heart is also affected by suppression of the menses, both in acute cases and in those where the general constitution is more or less anemial. It may be irregular as to frequency and force, and not unfrequently we hear a well marked bruit de soufflet, depending no doubt upon the impoverished state of the blood. It is not always easy to decide whether there is organic narrowing of the valves or not; but if we succeed in improving the patient's condition, especially by the use of iron, the question will be decided by the disappearance of the bruit.

CHAPTER III.

VICARIOUS MENSTRUATION.

188. It has already been stated, that any great drain upon the constitution, such, for instance, as a large bleeding or catharsis taking place about the monthly period, may supplant the menstrual discharge, and that without apparent injury. Now, this principle of one evacuation supplying the place of another and a healthy one, *pro tempore*, we see occasionally exemplified in a natural manner. In many cases, especially of *suppressed* menstruation, where the monthly effort or menstrual *molimen* occurs, without the uterine secretion, and where the system generally is suffering from the consequent plethora or irregular distribution of blood, an attempt is made by the natural powers to afford relief by a discharge of blood from some other part, generally one which is already enfeebled.

This is called *vicarious menstruation.* It is recorded to have taken place from the nostrils, eyes, ears, gums, lungs, stomach, arms, bladder, nipples, the end of the fingers and toes,* from different joints, from the axilla, from the stump of an amputated limb, from ulcers, from varicose tumors, and from the surface of the skin generally.† The more extensive mucous membranes (pulmonary and intestinal) are, however, the ordinary seats of the discharge. Siebold mentions that he knew an instance of excessive salivation supplying the place of the menses, and I saw a similar case at the Wellesley Dispensary some years ago. Dr. Blundell mentions that a case occurred in Saint Thomas's Hospital (under his own notice), "in which there was every three weeks, for at least three times in succession, a discharge from a sore on the hand, in the place of a discharge from the uterus, observing the same period to which the patient had been accustomed. In this case, it is worthy of remark that there was, some two or three hours before the commencement of the eruption, a throb in the course of the radial and ulnar arteries."

Dr. Law has kindly furnished me with the particulars of a case of this kind, of great interest, which came under his care in Sir P. Dun's Hospital. The patient, Mary Murphy, æt. 21, had been in bad health, and subject to distressing head-aches previous to her admission into hospital. During her stay she missed a menstrual period, and was shortly afterwards attacked by hemorrhage from both ears, which was repeated at intervals of from three to five nights, each attack lasting some hours. Very often from fifteen to twenty ounces of blood were collected which did not coagulate, neither did blood taken from the arm. By suitable treatment the system was strengthened, and the intervals between the bleedings increased; and the discharge, though thus modified, still persisted, and she left the hospital. After her departure, she was attacked with vomiting of blood, to a certain extent superseding the evacuations from the ears, which only occurred once or twice a-month. She returned to hospital in consequence of this new symptom, and continued in the same state for some time, with some effort at menstruation; but at last the sanguineous discharge was supplanted by severe diarrhœa, which having relieved the other complaints, was itself cured by opium. The quantity of blood lost must have been enormous, and it is not a little remarkable, that none of the sequelæ of severe hemorrhage occurred.

On this subject Dr. Ashwell states that in one case, the discharge occurred from the mammæ: in the other, from the ear. This last patient was a native of London, twelve years of age. She began to menstruate when eleven years and eight months old, and was regular for three months, when the catamenia ceased. Occasional hæmoptysis, and discharge of blood from both ears, vicariously occurred."*

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* Med. Gaz. Nov. 1839, Sept. 20, 1816, p. 292.

† Capuron. Mal. des Femmes, p. 120. Astruc, vol. i. p. 158. Haller's Physiology. Siebold's Frauenzimmerkrankheiten, vol. i. p. 338. Astbury. Ed. Med. and Surg. Journ. vol. xvii. p. 307. Ed. Med. Essays, vol. iii. p. 341, (from ulcer of ancle.) Hamilton. Med. Commentaries, vol. xi. p. 337. Mem. of Med. Society, vol. iii. p. 502. Davis's Obstetric Medicine, vol. i. p. 242. Locock. Cyclop. of Pract. Med. vol. i. p. 71. Med. Gazette, July 29, 1837.

Dr. Charles Ware has recorded a case in which hæmoptysis occurred every month during nursing; the woman having formerly always menstruated during lactation.†

A curious case is related by Dr. Dunlap of a young lady who had enormous vicarious menstruation, from the mouth and gums, about six quarts being passed each time. She was much reduced in strength, and having been cupped for pain in the side, it was found impossible to arrest the hemorrhage from the scarification, and in less than six hours she died.‡

A remarkable modification of vicarious menstruation has been noticed by M. Villartay in a young girl who suffered from amenorrhœa for a year. Each month she slept for three or four days at the proper period for menstruation. She had no affection of the head, the sleep was apparently rational, and after the catamenia returned, it entirely ceased.§

In general, the vicarious discharge consists of blood solely; it comes on suddenly, and continues at intervals for some days, unless the quantity be very great, in which case the first hemorrhage may be the only one. The local and constitutional distress under which the patient previously labored will be found to disappear in most cases, but the health will not be established during the interval. This irregular evacuation may take place at one period only, succeeded the next month by the catamenia; or it may occupy several successive monthly returns, preceded for a day or two each time by the usual symptoms of menstruation. Although an organ thus affected may exhibit the appearance of formidable disease (as in hæmatemesis or hæmoptysis), yet in general it is not attended with much functional disturbance, nor followed by more serious consequences than those resulting from the loss of blood. An attack resembling vicarious menstruation sometimes occurs in early pregnancy, or about the period of the 'cessation of the menses,' and seems to act beneficially as a derivative, preventing serious local congestions.

189. *Causes.*—The immediate cause is, of course, the sudden suppression of an accustomed discharge, and the consequent distress; but why such an extraordinary effort of nature should be made to avoid the evil consequences of the shock to the system, it is impossible to

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* Ashwell's Case, Guy's Hospital Reports, No. v. p. 156.

† American Med. Journal, April, 1850, p. 371.

‡ Edin. Monthly Journal, Oct. 1850, p. 375.

§ Journ. de Med. and Chir. Feb., 1850, p. 77.

explain. The locality of the vicarious discharge is often determined by the previous delicacy of an organ or tissue.

190. *Diagnosis.*—At the first outbreak, this curious phenomenon may occasion both alarm and difficulty, occurring (as I have said it does) in females of weak constitution, and in delicate organs. Our judgment of the nature of the attack must be formed upon the simultaneous concurrence of the amenorrhœa, the menstrual effort, and the vicarious evacuation. The diagnosis will be rendered quite certain by the absence of those signs and symptoms, and that constitutional disturbance which would characterise the local affection, were it primary and not vicarious.

191. *Prognosis.*—I have met with very few cases on record of a fatal termination to such an attack, nor am I aware that the organ or tissue so affected is more than usually liable to disease subsequently. I have seen several cases where the organic functions continued with little or no impediment after the cessation of the discharge.

In most of the cases related by authors, the uterus has sooner or latter taken on its proper action, and superseded the vicarious drain. It would seem, therefore, that but little fear need be entertained as to the effect of the secondary attack, or as to the ultimate resumption of its proper function by the uterus. At the same time, great care and watchfulness will be absolutely requisite in each case, when the discharge proceeds from the more important and more delicate organs.

192. *Treatment.*—If the attack have commenced without previous warning, little or nothing can be done except to watch the patient. If the discharge be from the lungs, opium may be given, either alone, or in combination with the mineral acids or the acetate of lead; and counter-irritation, for the purpose of moderating the evacuation. I have seen decided benefit from the tincture of Indian hemp, in doses of five drops three times a-day, and it may be given where opium disagrees. If from the stomach, opium with the subnitrate of bismuth may be given, as it has been found useful.

If, from its previous occurrence or from any other circumstance, there are grounds for expecting an attack of this kind, means should be used at once to relieve the system in a less questionable manner, and to stimulate the uterus into activity at the same time, if possible. Cupping over the sacrum, or leeches to the vulva or anus, will sometimes answer *both* objects perfectly, and for this reason are preferable to bleeding from the arm. During the interval, the patient may be treated much in the way recommended in simple amenorrhœa. Tonics, vegetable or mineral, and particularly the preparations of iron, should be given. If we are not successful by these means, and there are no counter-indications derived from the constitution of the patient, or the character and locality of the secondary affection, some of those remedies which act more directly upon the uterine system may be given.

CHAPTER IV.

DYSMENORRHŒA. PAINFUL OR DIFFICULT MENSTRUATION.

193. Amenorrhœa was described as consisting in the absence of the menstrual secretion. Now in Dysmenorrhœa there is most frequently deficient secreting power, but in addition there is severe pain accompanying the *secretion* or *emission* of the discharge. So that it would appear that the pain, not the quantity of the catamenia, is the distinctive mark of this disease. The menses may be scanty, profuse, or in the ordinary quantity.

Dysmenorrhœa may occur at any menstrual period, and it is very rarely found to be confined merely to one or two periods. In some cases it may be traced back to the very commencement of menstruation, and it occasionally continues throughout the whole of menstrual life. The amount of the pain varies very much; it may be moderate, and lasting but a few hours each time; or it may be so severe as to cause fainting, and, by the repeated shock to the constitution, render the patient a permanent invalid. The character of the pain and the accompanying symptoms vary according to the constitution of the individual. On this ground, the disorder may be divided into two species—*neuralgic*, and the *congestive or inflammatory*. A third may be added, where the difficulty is *mechanical*, and arises from some impediment in the passage.

194. I. *Neuralgic dysmenorrhœa.* This variety may attack females at any age, but I have found it more frequent after thirty than before; and in unmarried women, or in married women who have had no children, than in others. It is very much confined to those of a nervous temperament, and of a thin delicate habit of body.

The monthly paroxysms present all the characters of neuralgia. For a day or so previously there is a sense of general uneasiness, a deep-seated feeling of cold, or, as a patient described it to me, the bones of the extremities feel icy cold. Headache may precede the flow of the menses, or succeed it; and I have sometimes seen the headache alternate regularly with the pain in the back. The latter pain commences in the region of the sacrum, and extends round to the lower part of the abdomen, and down the thighs. In some cases it is constant, without any remission; in others it occurs in paroxysms, with intervals of ease. The amount of suffering varies much; it is often very intense, and, I think, more severe than in the other species. The period which elapses between the commencement of the pain and the flow of the catamenia is very uncertain; it may be a few hours, or may be a day or two. A sensation of forcing or bearing down is not unfrequently present, adding considerably to the distress of the patient. After the lapse of a longer or shorter time, the menses appear, sometimes slowly and scantily, in other cases in slight gushes; or they may cease after a day or two, and reappear. The quantity differs a good deal, not only with different persons, but in the same person at different times. The discharge may be scanty, profuse, or unchanged, perhaps a little paler than it ought to be, or mixed with clots or shreds. Dr. Tyler Smith observes, that in "dysmenorrhœa, or painful menstruation, the greater portion of the pain consists, I am convinced, of neuralgia; the deep lumbar pain is decidedly ovarian, and not uterine. Many women suffer so much lumbar pain at each menstrual period, that it resembles, and, indeed, almost amounts to a monthly attack of ovaritis. Almost all women suffer so much pain and disturbance from menstruation, that we may almost venture to say that menstruation, like parturition, lies in debateable ground between physiology and pathology." "Part of the pain of dysmenorrhœa, then, is ovarian, and that which is uterine is often symptomatic of general disorder." "Uterine disturbance must be considered as a secondary condition—an aggravated symptom of ovarian excitement in painful menstruation." "The bearing down I believe to be a tenesmus of the os and cervix uteri; it is most frequent and severe in women who have borne children, and in whom the os and cervix have been developed."*

195. In some cases of dysmenorrhœa we find a peculiar membrane secreted, which was first described by Morgagni,† and since by Denman,‡ Burns,§ and all writers upon diseases of females. It is composed apparently of plastic lymph, resembling that we find in croup, thrown off by the lining membrane of the uterus, and when sufficiently extensive taking the mould of the uterine cavity. It may either be discharged entire as a bag, or in shreds, or of the consistence of jelly.‖ When it is entire, and presents the form of the uterine cavity, it has given rise to suspicions of pregnancy; but if it be opened, nothing but a little fluid will be found in it, neither fœtus, nor cord, nor flocculent chorion. Its expulsion is accompanied by violent forcing bearing down pains, like those of labor. By some patients it is discharged every month, by others only occasionally. Professor Simpson has lately put forth a conjecture, founded upon analogy, that this membrane is really the mucous membrane of the uterus thrown off, but I confess that to me the evidence he adduces is not satisfactory.

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* On Parturition, p. 88.

† Epistola 48, art. 11.

‡ Midwifery, p. 106.

§ Midwifery, p. 63.

‖ Signs of Pregnancy, by Dr. Montgomery, p. 145.

Denman supposed the membrane to be secreted every month in cases of dysmenorrhœa, but that in many cases it passed away unnoticed. He also states that he never knew a woman conceive in whom this membrane was secreted, so that he considered it a mark of sterility. Dr. Dewees agrees with Denman; but Dr. Blundell says that conception is by no means impossible, though it rarely occurs, and this opinion is probably correct.

Dr. Oldham, in a valuable paper upon dysmenorrhœa, draws the following conclusions, among others, respecting this membrane, although the cases of which he speaks were evidently those of congestive dysmenorrhœa, in which the membrane also occurs. 1. There is a form of menstruation rendered extremely painful, from the production and casting off of a membrane from the cavity of the womb. 2. That this membrane is not the product of inflammation, or a thick mass of epithelium, but is formed from the uterine glands, just as the decidua is, and is expelled in the same way. 3. That the morbid action does not begin at the uterus, but in the ovary, and the sequence of effects is, first, ovarian congestion, calling forth a sympathetic growth of the uterine glands, forming a false decidua, and uterine engorgement. 4. That this uterine engorgement is oftentimes relieved by a proper menstrual flux; but if not, the posterior wall of the womb gradually increases in size, and becomes hard, the balance of the organ is lost, and it becomes retroverted,* &c.

196. The cervix uteri undergoes the usual change. At the menstrual period, it becomes swollen and less dense, with an increase of heat. The os uteri is more open than during an interval. The eruption of the menses is not immediately followed by the relief of the pain, as in the inflammatory dysmenorrhœa, but it subsides gradually, alternating sometimes with neuralgic pain in other parts, as in the face, teeth, &c. During the attack, the pulse is scarcely accelerated, but somewhat reduced in strength. There is no feverishness, and subsequently the patient seems less weakened that might have been expected. Each attack may last from twenty-four hours to four or five days, after which the patient (unless afflicted with headache) speedily recovers so as to resume her usual routine of employment. Very slight disturbance of other organic functions is observed; the bowels are regular, and the appetite very little affected.

I have described the phenomena of this form of the disorder, as we ordinarily see them; but I should be guilty of a great omission, if I did not state that I have seen cases where the patient's health, during the interval, was much more seriously affected. Such were very liable to returns of the severe headache or pain in the back, so intense, and so much aggravated by standing or walking, that they were obliged to lie on a sofa, or to remain in bed almost constantly; and, as the natural consequence of suffering and confinement, the functions of the stomach and bowels became impaired, and the general health seriously deteriorated.

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* Med. Gazette, Nov. 27, and Dec. 4, 1846.

197. *Pathology*,—From an attentive examination of these cases, I have been led to the conclusion, that the disease is most frequently of a simple neuralgic character. We have no evidence of any inflammatory process going on; the pulse is rather weaker, and scarcely, if at all, quicker; the skin is cool, and the remaining functions undisturbed. In short, there is no proportion (as there is in inflammation generally) between the amount of local distress and constitutional suffering. The womb and ovaries appear to be in a state of great irritability. In some cases, especially when the discharge is scanty, the disease appears to be owing to defective ovarian excitement, and we often find a confirmation of this view, in married women in the absence of sexual desire or qualification. I think it is these cases which generally prove sterile and very difficult to manage.

The above explanation, however, is not sufficient for those cases where the membrane is expelled. Probably Dr. Locock is right in supposing it the result of a low degree of inflammation of the mucous membrane, of a peculiar character. That it is met with in cases where the neuralgic character predominates, I know; but whether more frequently than in inflammatory dysmenorrhœa, I am not able to decide.

198. *Causes.*—Cold, especially when taken during menstruation, or soon after miscarriage or delivery, will often induce a severe attack. Sudden shocks, mental emotions, &c. acting upon an irritable condition of the womb, have been known to give rise to it, and especially when the impression was produced at or about the menstrual period.

199. *Diagnosis.*—The only mistake at all likely to be made, is confounding a dysmenorrhœal attack with *abortion*, on account of the paroxysms of pain and bearing down; which error becomes more probable, when the membrane I have already described is discharged entire. However, if the case be one of disordered menstruation, we shall find the patient has been 'regular' every month; perhaps that she has had a precisely similar attack the preceding two or three months. This will, of course, be decisive. In addition, we may observe, that the discharge accompanying abortion is decidedly sanguineous, and not menstruous, and that in quantity it ordinarily exceeds the catamenia very much.

I have said that the menstrual sac contains nothing but fluid, and of course, when opened, no fœtus is discovered. Little stress, however, can be laid upon this, since it is well known that a fœtus of an early age is often dissolved in the liquor amnii. The external surfaces of the ovum and the sac differ more than the internal; on the ovum we find more or less of the flocculi of the chorion, to which the outer surface of the menstrual membrane, however rough it may be, bears no resemblance.

200. *Treatment.*—The indications are two-fold: 1, to relieve the pain during the attack; and, 2, by appropriate remedies to prevent a return.

Our principal reliance for the former is upon sedatives. Opium may be given in grain doses every second hour, commencing with the first sensation of pain in the back, and continued until relief is obtained. If opium should disturb the stomach, it may be given in the form of enema: if the head be affected by it, we may try the acetate or muriate of morphia, black drop, hyosciamus, conium, &c. Very much relief will be afforded by the use of the opium pessary before the discharge commences, or if we are too late, by the use of an opium suppository. Camphor seems to be of use,* either alone, or, what is better, combined with the opium. I have latterly found great benefit from the tincture of the resin of Indian hemp in cases of neuralgic dysmenorrhœa, with profuse flow; it not only checks the latter, but decidedly relieves the pain. The dose is five or six drops three times a day in water.

Massuyer of Strasburgh, Cloquet, and Patin† have each prescribed the acetate of ammonia, in moderate doses, with benefit.

Drs. Dewees‡ and Gooch gave the ergot of rye successfully. I tried it, but though at first it appeared to relieve the pain, it afterwards entirely failed. The dose is five grains three times a-day, and it should only be given when the discharge is profuse.

201. *During the intervals* every effort should be made to strengthen the patient, and to lessen the general and local irritability. For this purpose the diet should be generous, with a fair proportion of wine, and exercise in the open air should be taken once or twice daily. Chalybeate waters, or some of the medicinal preparations of iron, may be given. Dr. Locock speaks well of a mixture of equal parts of vin. ferri and spirit. æther. sulph. co., of which fʒss to fʒi may be taken two or three times a-day. Should the iron disagree, zinc, in proper doses, may be substituted. Dr. Dewees has tried the tinct. cantharid. with success, but the medicine upon which he appears to rely most confidently is the tinct. guaici ammon. in doses of fʒss three times a-day. The pain is sometimes increased the first period after its exhibition, he says, but ultimately it affords complete relief. Dr. Locock has pointed out the especial usefulness of this medicine in patients of a rheumatic diathesis.

Dr. Bushnan recommends veratria.§ Dr. Stahl of Indiana has used borax successfully. Dr. Chapman of Philadelphia recommends senega root very highly.

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* Dewees. Diseases of Females, p. 136.

† Mem. de la Soc. d'Agriculture, &c. du department de l'Aube, No. 36.

‡ Diseases of Females, p. 137.

§ Brit. and For. Med. Review, Oct. 1841, p. 594.

A blister to the sacrum, or a caustic issue, is often of great use, and I have seen very much benefit derived from the daily use of vaginal injections of tepid or cold water during the interval.

Prof. Mojon of Genoa has injected carbonic acid gas into the vagina in these cases, it is said, with great relief of the pain, and a more regular menstruation subsequently, and from the experience of Dr. Simpson, and some trials I have myself made, I should think the remedy well worthy of further trial.

On the approach of the next period, warm water may be thrown into the vagina, and the patient should take a hip bath or pediluvium every night for two or three nights antecedent to the eruption.

This variety is often extremely obstinate, resisting all our plans of treatment for years; in other cases we may be more successful. The disease is rarely even the indirect cause of any fatal attack, and at the farthest, the patient may look for a cessation of the suffering at the period of the cessation of the uterine function.

202. II. *Inflammatory dysmenorrhœa.*—This species differs very widely from the last described, in the subjects of it, and in its symptoms. It occurs in females of a full habit and of a sanguine temperament, and generally at an earlier age. Unmarried women are very liable to it, and married women who have had children. Its first approach is generally sudden, and the result of cold or some violent constitutional disturbance. A slight degree frequently attends upon each return of the menses, in young girls of florid complexion and plethoric habit, even from the first menstrual period, but which disappears after marriage. Very few precursory symptoms announce the attack; a degree of restlessness and feverishness, rigors and flushing, and generally headache, precede the severe symptoms. For some time before and after the catamenia appear, the suffering is very great: the patient complains of pain across the back, aching of the limbs, weariness, intolerance of light and sound, the face is flushed, the skin hot, the pulse full, bounding and quick, often upwards of 100. Cases not unfrequently occur in which the fever runs so high that delirium supervenes for a short time. On the other hand, we constantly see cases of this variety, as ascertained by an examination, in which the general symptoms are far less severe, although the pain in the back and front, the weight and forcing down, are equally well marked. Most commonly the symptoms are mitigated when menstruation is fully established, and then by degrees all the general disturbance subsides. The interval between the first sensation of pain and the appearance of the catamenia varies a good deal; it is, I think, rather less than in the former variety. The amount of discharge varies; I have known it to be very scanty, but it is more generally profuse. The dysmenorrhœal membrane may also be secreted, either entire or in shreds, with the symptoms described by Dr. Oldham. I have often found uterine

208. *Treatment.*—If stricture be discovered, even though it form but a part of the complaint, there can be no objection to the cautious introduction of elastic bougies. It is easily effected, either when the patient is upright or in bed. We should commence with one of a small size, gradually increasing until we can pass one the size of a male catheter. The patient should be carefully watched after each introduction, lest symptoms of inflammation set in; and it will be well to use vaginal injections of warm water once or twice a-day. The frequency with which the bougie should be passed must depend a good deal upon the irritability of the patient; every second or third day will be often enough. The instrument, when introduced, may be allowed to remain a few minutes. It is hardly necessary to caution against mistaking a fold of the radiated mucous membrane for a permanent obstacle; nor against using any degree of force in passing the bougie; nor against forcibly pressing it against the fundus uteri.

Dr. Rigby uses a dilator with blades of well tempered steel, which are to be expanded, and allowed to remain so for a short time. If a further degree of dilatation be required, he prefers a sponge-tent. Metallic tents, of graduated sizes, have been used by Professor Simpson.

Not content with the gradual dilatation of the stricture, however, Professor Simpson* and others have advised its section by an instrument resembling a "lithotome caché." The point of the instrument is to be introduced into the cervix, past the narrow portion, and with the cutting edge turned laterally; and then, having previously determined the depth of our incision by the little screw, the instrument is to be slowly withdrawn: and an incision effected on the opposite side in the same way. The angles of the incisions should be touched with nitrate of silver, to prevent their healing. I am told that severe hemorrhage has occasionally followed. Drs. Simpson and P. Smith state that success has followed such practice. Dr. Oldham relates a successful case, and one that only partially succeeded;† and Dr. Beatty has recorded four cases‡ in which relief followed the operation; nevertheless, I think the evidence we possess is in favor of the slower and safer remedy. I do not believe that the uterus is so tolerant of interference, and of the presence of foreign bodies, as some have stated. I am happy to find that Dr. West in his recent valuable work, and Dr. Oldham, have taken the same view. In his paper on sterility,§ the latter relates two fatal cases resulting from the mischievous attempt at mechanical interference.

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* Monthly Journal, May, 1847.

† Med. Gazette, Nov. 27, 1846.

‡ Dublin Med. Press, Dec. 19, 1856.

§ Guy's Hospital Reports, Oct. 1849.

CHAPTER V.

MENORRHAGIA. EXCESSIVE MENSTRUATION.

209. This term is used by many writers to signify merely an increase in the catamenia, without any mixture of other fluid; others include in it, as well, any discharge of blood which may accompany or succeed the menstrual evacuation. This latter definition has been adopted by Dr. Locock, and it is probably the best, as avoiding undue multiplication of names, and allowing the expression 'uterine hemorrhage to be applied exclusively to floodings connected with pregnancy and parturition.

Excessive menstruation may occur in various ways; the menses may return too frequently or too copiously, or at unusual periods (as during gestation and suckling.) When very profuse, with protracted intervals, it has been mistaken for abortion. But in estimating the excess, we must take into consideration both the climate and the constitution. That which we consider scanty menstruation here would probably be set down as menorrhagia in other countries; and in the same way, the quantity secreted by some individuals in perfect health is excessive, compared with the discharge in other persons of equal health.

I have had occasion to notice three very distinct forms of the disease, which include, I think, most of the cases we ordinarily meet in practice.

In the *first*, the discharge is of the natural quality, but the quantity or frequency of recurrence is greatly increased. In the *second*, the discharge is large, and occasionally mixed with clots of blood. An examination, *per vaginam*, reveals no change in the condition of the neck or body of the womb. In the *third*, there is a considerable loss of blood, with a marked change in the size and position of the uterus. Of course we may have menorrhagia complicated with erosion and ulceration of the cervix; but of this I shall speak in the proper place.

210. As to the *first form*, it occasionally sets in with a sudden and violent gush from the vagina, after which it stops for some hours, and then recurs; and this alternation may occur during the usual period of menstruation. Sometimes, on the other hand, the discharge goes on regularly, but lasts for ten days or a fortnight, or even three weeks; or, the quantity each time not being extraordinary, it may return every two or three weeks; and this variety I have seen in young unmarried females, as well as in those whose uterine system has been in a state of greater activity; but it is more commonly met with in the latter. It is also, more frequently than the others, connected with that state of the lining membrane which gives rise to uterine leucorrhœa during the interval between the menstrual periods. In some cases

which I have had under my care, the leucorrhœa preceded, and was evidently the cause of the menorrhagia; and when it succeeds the latter, it always appears to augment the severity of the symptoms. In those cases (of rather rare occurrence) where the menorrhagia has become almost constant, leaving perhaps hardly a week's interval, it will generally be found on enquiry, that an earlier period the patient was much subjected to "whites."

211. *Symptoms*—The general symptoms are exactly those we should anticipate from the continuance of a debilitating discharge. Exhaustion, langour, and dislike of exertion, weakness across the loins and hips, paleness of the countenance, head-ache, throbbing of the temples, tinnitus aurium and giddiness occur more or less in the slighter cases. If the disease be not relieved, and especially if uterine leucorrhœa be present, all these symptoms become aggravated. The exhaustion and langour increase, the face becomes sallow, an aching pain is felt across the loins, extending round the lower part of the abdomen: pain in the left side, repeated and severe head-aches, derangement of the stomach and bowels; in short, all the secondary symptoms, and the derangement of the health which follow in the train of anemia, no matter in what way this may be produced. In some extreme but rare cases, we have diarrhœa and anasarca, with nervous symptoms, melancholy, and even epilepsy, resulting from this disorder.

Nothing is discovered by a vaginal examination: there is neither unnatural swelling nor increase of heat; the os uteri is slightly open, but there is no tenderness, nor any breach of surface.

212. *Causes.*—Among the more general causes of this disease, repeated child-bearing and over-suckling are perhaps the most frequent. The latter is often carried to a great extent among the poor, to prevent the too rapid increase of the family, which it does very effectually when it gives rise to this disorder, but at the expense of much suffering and loss of health to the mother. In some cases it is attributable to hemorrhage after parturition, and in one patient of mine in whom this occurred, the catamenia have ever since returned regularly every three weeks. Excessive or incomplete coition sometimes causes, and always aggravates, this affection. Cold, over-exertion, mental emotion, &c. will also occasionally produce it. In the severer cases, conception does not take place; but I have witnessed the contrary in the milder ones. It may or may not return after delivery.

The *duration* of the attack is very variable; the slighter cases often subside spontaneously, and the more severe are generally amenable to suitable treatment, though they are sometimes tedious.

The *consequences* of this complaint are a great liability to abortion if the patient become pregnant, and also from the increased weight of the uterus, a general depression; or, if the increase be anteriorly or posteriorly, ante or retroversion of the uterus.

213. *Diagnosis.*—The *first form* of menorrhagia differs from the

other two, in the absence of clots in the discharge; and an internal examination will enable us to distinguish it from organic disease of the ůterus.

214. *Treatment.*—The first ***indication*** is to remove the cause, if possible. If it proceed from over-suckling, the child should be immediately weaned, and the patient should live for some time ***absque marito.*** It may be necessary, in persons of a full habit of body, and where the attack is recent, to take blood from the arm, cup the loins, or apply leeches to the anus; but such cases are very rare. Where the discharge is very copious, a dose of opium, or the acetate of lead in combination with opium, will often diminish the quantity. When these remedies have not succeeded, I have found great benefit from ergot of rye, given in five-grain doses three times a-day. It has seldom or never failed in checking the discharge, without producing any unpleasant symptoms. The tincture of the resin of Indian hemp has been introduced to our notice by my friend Dr. Maguire, of Castlenock, for this disease. I and others in this city have tried it with great success. It seems best suited for the first and second varieties of menorrhagia, and very few doses are generally sufficient. I have also used it in threatened abortion, with great benefit. I have once or twice seen unpleasant nervous symptoms follow its use, but they were not serious, and were dissipated in a few hours by ammonia, rest, &c. The dose is from five to ten drops three times a day, in water.

Dr. Osborne has found great benefit from the use of ipecacuanha.* Dr. Locock recommends cold to the vulva, hips, and abdomen, with cold vaginal injections; and Dewees used a vaginal injection of sugar of lead with laudanum, followed by rest on a hard bed, a dose of gtt. xx. of elixir of vitriol, and gentle laxatives, twice a day with success.

I cannot but think, however, that throwing any cold fluid into contact with the uterus during menstruation is a very hazardous practice, and very apt to convert the periodical and temporary congestion into serious inflammation. Still more strongly should I deprecate injections into the cavity of the womb itself, as recently advised in France, and the trial of which was attended with most fatal consequences. A much safer application of cold I have found to be by enemata of cold water. Plugging the vagina has also been recommended; as a '***dernier resort***' it may be tried, although it is neither a very scientific application in these cases (the discharge being a secretion and not hemorrhage,) nor very safe, on account of the irritation it is likely to cause. If used, the plug should be removed in ten or twelve hours, and, if necessary, a fresh one may be introduced.

Dr. Mackintosh speaks well of an enema containing a scruple of the sugar of lead.

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* Trans. of the Coll. of Phys. in Ireland, vol. iii. p. 18.

Dr. Kölle has recommended the application of leeches to the breasts.[*]

So much for the remedies applicable during an attack; much may also be done during the intervals, by local and general remedies, and a prudent regulation of the diet. A blister may be applied to the sacrum with great advantage, and either be kept open or renewed. Vaginal injections once or twice a day, at first of tepid and afterwards of cold water, will be found very useful. Benefit is also derived from shower baths and from sponging the loins and lower parts of the body with cold salt water; it relieves the distressing weakness of the loins and the general lassitude, and seconds most powerfully the more direct remedies. Tonics, especially the mineral ones, should be given; a very useful pill is composed of sulphate of iron, (gr. ½ *pro dos.*) with aloes and myrrh; or with blue pill and compound rhubarb pill. Griffith's or Heberden's mixture, or some analogous compound, will also answer our purpose. By some writers the carbonate of iron has been preferred; by others, the muriated tincture. The bowels should be kept regular. The diet may be generous, but ought not to be too stimulating; wine in moderate quantity may be allowed. The extremities and the surface generally should be kept comfortably warm, but too great accumulation of clothing about the hips and loins is apt to increase the complaint.

215. The *second form* differs from the first, in the more or less copious discharge of clots of blood, along with the proper secretion.

It rarely occurs in young or unmarried females, and I have not commonly seen it in persons under the age of thirty. The subjects of it are generally women of the leucophlegmatic temperament, whose constitution has been impaired by disease, or frequent child-bearing.

216. *Causes.*—The causes of this variety of menorrhagia are nearly the same as those of the former, and therefore I need not dwell upon them; but the *pathology* is evidently different. There can be no doubt but that congestion, to a much greater extent than is usual at the menstrual periods, takes place, and it is to the effects of this over-distension of the vessels we must look for an explanation of the presence of clots in the discharge. I have not been able, however, to discover any alteration in the volume or position of the uterus by an *internal* examination; but we more frequently find an abrasion around the os uteri.

217. *Symptoms.*—The disorder appears gradual in its progress; one or two small clots appearing at first, and almost unnoticed by the patient; then perhaps an intermission, and a return in increased quantity. After it has gone on thus for some time, the loss of blood may become considerable, so as even to cause fainting. It is impossible to

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[*] Lancet, Dec. 30, 1837.

say, in these cases, whether the catamenia are altered in quantity or quality. A *vaginal* examination throws little light upon the nature of the disease. The os uteri is found rather more open than usual, and occasionally a granualar erosion around it, but its borders are not thickened, nor are the cervix and body enlarged; no increase of heat is observed. The constitutional effects are similar to those which arise from the preceding variety, but more severe, and more rapidly produced. The pulse is very feeble, and occasionally quickened; the strength greatly exhausted; the back aching, and so weak, that sitting upright or walking is very distressing; the countenance is colorless, and the patient is liable either to serous effusions or to local congestions, from the unequal and uncertain balance of the circulation. This species is almost always accompanied with uterine leucorrhœa.

218. *Treatment.*—The remedies which were recommended in the first variety are equally available in the second. Opium alone, or in combination with lead, and the ergot exhibited during the attack; with counter-irritation to the sacrum; the douche to the loins; cold sponging, and vaginal injections of cold water or astringent solutions, during the interval, constitute our main resources. In the choice of the proper remedy, and the strength at which it is to be employed, the medical attendant must be guided partly by his own prior experience of their relative value, and partly by the peculiarities of each individual case. M. Pasquil has advised venesection,* but there are not many cases in which it would be likely to succeed.

Astringent medicines, such as large doses of sulphuric acid in infusion of roses, decoction of logwood, &c. have been found useful, and deserve a trial. Dr. Ashwell refers to Dr. Cholmely's case, cured by drastic purgatives.† Ergot of rye has been successful in the hands of MM. Scheider,‡ Lisfranc,§ Pignacca, Pigrani,‖ and Bellingeri.¶ My own experience confirms their opinion as to its value. I have already mentioned the Indian hemp, which, with the ergot of rye, I regard as the most valuable remedies we possess in this disease. In some cases, I have found gallic acid, Ruspini's styptic, and other astringents, of use. Sir James Eyre speaks very highly of the oxide of silver, in doses of half a grain three times a day, increased to two grains. He considers it superior to ergot, gallic acid, &c.** M. Ginestet recommends the juice of the lesser nettle—*urtica urens*. The dose is from 15 to 20 drachms. One dose is generally sufficient.*

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* Encyclographie, Oct. 1837.

† Diseases of Females, p. 136.

‡ Lancet, July, 1837. Hufeland's Journal, March, 1837. Encyclographie, Sept. 1837.

§ Mal. de l'Uterus, p. 381. *Note.*

‖ Annalli univ. di Med. di Milano. Duparcque, p. 106.

¶ American Journal of Med. Sciences, March, 1830. Lancet, July 8, 1837.

** Practical Remarks on some Exhausting Diseases.

I have also found benefit from the exhibition of small doses of turpentine two or three times a-day, but especially from large enemata of cold water used morning and evening. Vegetable or mineral tonics are highly beneficial in the exhausted state to which the patient is reduced. Absolute quiet is necessary during an attack, and if exercise be taken during an interval, it should be in the least fatiguing mode possible. The diet ought to be moderate in quantity, but nutritious, and wine may be allowed. The stomach and bowels will require suitable medicines occasionally. All possible causes, and every thing likely to aggravate the camplaint, must be excluded with the utmost rigor.

219. The *third form* differs considerably from the other two. The discharge is more profuse, and its symptoms more severe; it is accompanied by marked alterations in the condition and relation of the uterus, occurs at a later period of life, and is more difficult to cure. The disease is not confined to any one kind of constitution or temperament; it occurs in the plethoric and in the debilitated, in the melancholic as well as in the sanguine. I have never seen it in a patient under thirty years of age, nor after the cessation of the catamenia.

220. *Symptoms.*—The attack is preceded for some time by irregularity of the menses, both as to time, quantity, and the duration of each period, with occasional uterine leucorrhœa during the intervals. It is not until the menses have flowed naturally for about twenty-four hours, that the sanguineous discharge appears. Large clots are then expelled, in addition to a great increase in the fluid discharge. At first the attack lasts seven or ten days only, but in cases of longer standing I have occasionally known it to continue throughout the interval, and terminate after the next period, either gradually or suddenly. The quantity lost varies, of course; it is sometimes very large; it was sufficient in one case to excite fears of a fatal result. The recumbent posture appears to have no effect upon the discharge, there being as much observed during the night as the day. Any exertion or long standing never fails to increase the amount.

During the attack, the patient complains of excessive exhaustion, of a sense of weight in the pelvis, of a dull pain there occasionally, and of weakness of the loins. In all the cases I have seen, there was considerable dysuria, especially after long standing; several, indeed, were obliged to lie down before they were able to evacuate the contents of the bladder completely. The general health, of course, suffers considerably; the appetite diminishes; the tongue is clean, though pale, the bowels become constipated, the surface blanched, and the strength much reduced. The pulse is occasionally quickened, but more generally quiet, and enfeebled in proportion to the loss of blood.

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* Ranking's Abstract, vol. i. p. 135.

An *internal* examination will detect the os uteri somewhat lower in the pelvis, and directed more towards the sacrum than usual. It is rather more patulous than in a perfectly healthy subject, even at the time of menstruation; and the cervix is more or less swollen, especially anteriorly, where it expands into the body. It appears to be tilted forward by its increased weight, so as to press upon the bladder; thus affording a satisfactory explanation of a symptom (the dysuria) which I have noticed in every well-marked case of the disease. No increase of heat is observed in the vaginal canal or about the cervix. The cervix and body of the uterus are generally, but not always, slightly tender on pressure. When the finger is withdrawn, it is found covered with a sanguinolent discharge, somewhat thinner than blood, and devoid of smell. An examination with the speculum shows the cervix to be enlarged, and of a deeper color than usual, with a granular or abraded condition of its surface very frequently. The amount of these changes will vary in different cases; in some, the cervix appears the part chiefly affected; whilst in others, the body of the womb, as far as the finger can reach, feels greatly swollen. The discharge seems to be always in exact proportion to the degree of uterine congestion.

The *duration* of the disorder is variable: it may subside spontaneously, or, in consequence of the remedies employed, in two or three months after the first attack; or it may continue for two or three years. In the latter case, however, I have always found that the patient has enjoyed short intervals of perfect freedom from the attacks. A relapse after an apparent cure is exceedingly common, so that it is quite necessary to watch the patient closely during one or two succeeding monthly periods: I might say, indeed, that the test of the success of our treatment consists in the return of the catamenia without hemorrhage or pain, the relief obtained during an interval being often merely temporary.

221. *Pathology.*—If we consider the time at which these attacks occur, a period at which there is always an accumulation of blood in the womb for the performance of its functions; if we notice also the slow progress and subacute character of the symptoms, with the peculiar terminations of this disorder, and collate these with the information obtained by an internal examination, as we shall be led to the conclusion that the disease is rather passive than active; that it consists, in fact, in an unusual and excessive congestion of the uterine vessels, and that the discharge is the result, not of secretion, but of the rupture of some of the vascular twigs which ramify on the lining membrane of the uterus. I have never been able to detect any special *cause*, unless we consider as such the peculiar age at which it occurs.

There is one point of view in which this form of menorrhagia possesses great interest, viz. its possible relation to some organic disease. When we recollect that the age at which it has generally been observed is also about the period when many of the organic diseases of the uterus commence, we may fairly ask whether this inordinate congestion may not be the forerunner of more serious maladies? There can be little doubt, I suppose, that such congestions must leave the uterus in the most favorable state possible for the development of graver disease; and if this be the case, this form of menorrhagia must be regarded as even of more importance than the symptoms would lead us to suppose.

222. *Diagnosis.*—The diagnosis of this disorder is not difficult. Our suspicions will first be excited by the admixture of blood with the menstrual discharge, its persistence after the normal period for that excretion has expired, and the peculiarity in the evacuation of urine. All doubt will be removed by a vaginal examination.

The complaint may be distinguished—

1. From *inflammation of the uterus*, by the heat of the part not being increased, by the *slight* degree of pain and tenderness, by the spontaneous and repeated subsidence and recurrence of the attack, and by the absence of all constitutional excitement; the tongue and pulse being nearly, if not quite, in a natural state.

2. From *enlargement of the organ by morbid deposition*, by the hemorrhage without ulceration, and by the subsidence of the tumefaction when the attack ceases.

3. The hemorrhage attendant on *corroding ulcer* or *cancer of the uterus* differs from this species of menorrhagia in the irregularity of its occurrence: it may be at the menstrual period, or during the interval; and when it does occur before the cessation of the menses, it appears entirely unconnected with that function; in addition, there is much more pain generally in these diseases than in menorrhagia, and the breach of surface they occasion, which will be detected by a vaginal examination, will decide the question at once.

4. A vaginal examination will also prevent our confounding it with the hemorrhages arising from the *cauliflower excrescence*, or *polypus* of the neck of the uterus; but there may be some difficulty in a case of polypus of the fundus, which has not been expelled through the os uteri. The hemorrhage, and the bulk arising from the presence of the polypus together, render the resemblance of one disorder to the other very remarkable. The data for our guidance are principally the information acquired by a careful internal examination, the concurrence of the hemorrhage with the menstrual periods, the reduction in the size of the uterus during the intervals of the attacks, and the effects of remedies.

223. *Prognosis.*—Of all the cases I have seen, none have proved fatal, either directly or indirectly. All have been ultimately relieved, although some have been tedious and obstinate, and a few required a considerable time for the restoration of the general health. One of the first signs of improvement is the cessation of the uterine leucorrhœa during the intervals: this is shortly followed, in case of recovery,

by subsidence of the uterine swelling, and by a diminution of the tenderness.

224. *Treatment.*—Although the complaint appear simple, it is neither easy nor possible in all cases to restrain the hemorrhage by means applied during the attack. I have found opium alone, and in combination with large doses of the acetate of lead, ineffectual. Cold to the vulva, and *enemata* of cold water, were equally powerless. Plugging the vagina arrested the discharge for a time, but the irritation it excited seemed to aggravate the other symptoms. Leeches to the vulva had no effect upon it, and the preparations of iron did little or no good. The only remedy, in short, which seems to have the power of controlling the discharge, during the menstrual period, is the ergot of rye. It may be given in doses of five or ten grains twice or thrice a-day. I have never seen it produce any ill effects in this disease, although I have certainly known it fail altogether. During an attack, the patient should be kept in a state of perfect rest: she should lie on a hard mattrass, covered rather lightly with bed clothes, but with warmth applied to the feet. All her drinks should be cool and devoid of stimulants, unless she become faint, and then a little wine may be allowed. At this period, ergot of rye, Indian hemp, or any astringent medicine may be given. I have found enemata or vaginal injections of cold water very useful, though I have not ventured as yet to inject the uterus as recommended. So long as the discharge continues, the employment of the remedies for the *cure* of the disease must be suspended; but when once it has entirely ceased, not a moment should be lost. A blister should be applied to the sacrum, and either kept open or repeated. I have always found good result from this; the pain in the back generally becoming less severe, and the whites diminishing in quantity. But by far the most powerful means we possess are vaginal injections of cold water, solution of acetate of lead, or other astringents, two or three times a day. The patient should lie on her back in the bed, and the fluid should be thrown up gradually, and in a continued stream by Kennedy's or Higginson's syringe. An almost immediate improvement is the result, followed by the subsidence of all the prominent symptoms, even in those cases which relapse subsequently. The swelling of the uterus will be found upon examination, to have disappeared; there is probably scarcely any whites; no pain in the back, or weight in the pelvis, and the patient is able to walk about without inconvenience.* When the improvement is so marked as this, there is but little fear (with due caution) that the patient will

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* The late Dr. Hamilton of Edinburgh, in a letter to me, dated Edinburgh, May 10, 1838, says, "I should recommend for the treatment of the third variety of menorrhagia, a fair trial, during the interval between the periods, of the conium maculatum, both internally and externally, viz. four grs. of the powdered leaves, combined with a few

relapse at the next monthly period; but where the relief, though decided, is not complete—where the disease still lingers—then, in all probability, the next menstruation will be accompanied with the old symptoms, to be met again, and perhaps more successfully, by the same remedies. It is important to remember, that no matter what may be the degree of improvement, one or perhaps two menstrual periods should be passed with caution and rest, before the patient resume her usual habits.

In some very few cases, I have seen benefit derived from cupping the loins previous to the application of a blister, but in general it is not necessary. Tonics, mineral or vegetable, are often useful; and here, as in most of the disorders of menstruation, the preparations of iron seem peculiarly beneficial. The bowels must be kept free, as the patient is apt to suffer from constipation; at the same time, purging should be avoided. Good nutritious diet may be allowed, and if the patient be much weakened, wine may be given. Great caution must be observed in admitting the patient to take exercise until after a menstrual period shall have passed safely over; then, indeed, moderate exercise in the open air will be very serviceable. All possible causes must be avoided, and for some time the patient (if married) should live apart from her husband.

It is desirable to pay special attention to all these forms of menorrhagia, but particularly the latter, as I am satisfied that their repeated occurrence ultimately causes a considerable increase in the bulk of the uterus, a kind of hypertrophy in fact, with some depression of the uterus as its consequence; or if the enlargement be chiefly posterior, retroversion.

In some very obstinate and excessive cases of menorrhagia, when there is danger to life, and no special disease can be ascertained, we may derive benefit from injections into the uterus, which under ordinary circumstances we might hesitate to use. Dr. West succeeded with a solution of gallic acid in one case, and I have lately tried gallic acid, which failed, and then a solution containing twenty grains of nitrate of silver to two drachms of water; it gave no pain, and arrested the discharge. Mr. Coxeter has invented an admirable instrument for the purpose, which he calls his "seamless tube."

225. In addition to the foregoing and ordinary derangements of menstruation, Dr. Blundell speaks of the discharge of "offensive catamenia." He says, "before I speak of the cessation of the menses, I may observe here, that there are some young persons made very

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grains of the columba root, taken three times a day, and a poultice, composed of ʒvi of linseed meal, with the same quantity of the powdered leaves of the conium mac., to be applied on the region of the pubis, and to be renewed every twelve hours."

unhappy, because, when the catamenia form, they are offensive. Dr. Whiting related to me a case of this kind, stating at the same time what he conceived to be the cause. It seems that the disease is produced, at least sometimes, by a partial closure of the orifice of the vagina, in consequence of which the catamenia have not a free escape during the menstrual period, and that being partially retained in the vagina, putrescence and offence ensue. If the patient is taught to use a syringe and warm water in a proper manner, during the menstruating period, this little infirmity may be easily relieved for the time, and marriage and child-bearing will accomplish the rest."*

I do not believe that the cause here mentioned is the usual one. I have seen many such cases, and I think more frequently in married women, and those that have had children, than in virgins. It does not occur every period, but now and then one or two offensive discharges, and then the natural ones. In almost all cases the secretion is changed in color, often in consistency, but not generally in quantity. I have most commonly found it in delicate women, and sometimes in those who have recovered slowly from a bad miscarriage or confinement. I cannot but regard it as a faulty secretion from some morbid condition of the mucous membrane of the uterus, and my efforts are directed to remedy this by alteratives of iron. I have once tried a weak solution of nitrate of silver as an injection into the uterus, but though it cured the offensive secretion, it occasioned so much pain that I have not been tempted to repeat it. There can be no possible objection to vaginal injections for the purpose of removing the offensive discharge.

CHAPTER VI.

CESSATION OF MENSTRUATION.

226. THE period of this great change is about the age of forty-five or fifty; it is referred to by females as the "time of life," and is dreaded by them from a belief in its excessive mortality. This opinion probably originated with medical practitioners: it is, at all events, advanced by the older writers. The mistake (for such it is) has probably arisen from comparing the mortality of females at this period with that at an earlier period; comparing, in fact, old and nearly worn-out women with the young and strong. We should expect the deaths among the former to preponderate,† but this is no reason for

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* Diseases of Women, p. 264.

† Even this would appear somewhat doubtful, for Mr. Constant Saucerotte has attempted to prove by statistics, on a grand scale, that the mortality among women is greater between the ages of 30 and 40, than between 40 and 60.

attributing any peculiarly fatal influence to the subsidence of the uterine function. We ought, in truth, to compare the mortality in the opposite sex at the same age, and we shall then arrive at a different conclusion. M. Benoiston de Chateauneuf has shown, by extracts from burial registries, that the mortality between the ages of 30 and 70 is not more considerable amongst women than men. Similar results have attended the researches of Dr. Bellefroid.*

Muret, in his statistics of the *Pays du Vaud*, did not find between 40 and 50 a more critical age for women than between 10 and 20.

M. Lachaise, in his Medical Topography of Paris, has given similar evidence.

But if the comparative mortality be less than was supposed, there can be no question as to the importance of this period; for, in many cases, we find uterine and ovarian disorders dating from thence, and we know that it is about this time generally that the more malignant diseases commence. How far they may be owing to neglect at this period, it is very difficult to say; we must suppose, however, that the anatomical state in which the uterine system is left on the arrest of its functions, must exert a certain amount of influence in their production.

227. *Symptoms.*—These will vary very much according to the constitution of the female; if she be strong and healthy, she may find the discharge gradually declining in quantity, and changing to a lighter color, until it cease altogether, with no periodical irregularity or bodily distress; or, the red discharge may alternate with uterine leucorrhœa towards the termination. In other cases, there is no uterine leucorrhœa, the catamenia omitting one or two periods, and then returning, and so on until they cease altogether. But if the patient be delicate, matters may not go on so quietly; there may be repeated attacks of uterine hemorrhage, endangering life, or that variety of menorrhagia, which I have described as the third form, may occur. Sometimes, but rarely, vicarious menstruation has taken place.

So much for the mode in which the menses subside; but this does not comprise the whole of the danger, which can only be understood by considering the diseases to which so great a functional, and ultimately organic change, exposes all the generative organs, and those in more immediate relation with them. In healthy women, indeed, there is often immunity from any secondary attack dependant on this cause; the patient gets much fatter, the abdomen and breasts enlarge, and she not unfrequently persuades herself that she is pregnant. Occasionally there seems to be a disposition to irregular distribution of blood, local congestion, &c. but more frequently the health is improved. This is especially the case with those patients who have suffered much from dysmenorrhœa or irritable uterus. Delicate females, and especially those subject to menstrual derangements previously, are exposed to local diseases of the sexual system, and especially to that series of changes which issues in confirmed disorganization. This is the more to be apprehended if she have already been the subject of uterine disease, or if at the time any such disease be latent, and on our part it will require attentive examination and considerable practical skill.

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* Lisfranc. Mal. de l'Uterus, p. 202, *note*. Bull. Med. Belge, Sept. and Nov. 1839. Davis's Obstetric Med. vol. i. p. 289.

But if the generative system escape the more serious affections, the patient, it is said, is much more liable to seizures of a temporary nature in other parts. Amongst these are enumerated hemorrhages from different surfaces, attacks of inflammation in any delicate organs, vertigo, hysteric paroxysms, colics, hemorrhoids, rheumatism, cutaneous eruptions, ulcers of the legs, dyspepsia, diseases of the breasts, profuse sweats, leucorrhœa, apoplexy, palsy, insanity, &c. In some very rare instances, sudden death has occurred at this period. It is not unnatural, reasoning *a priori*, to expect a predisposition to disease upon the cessation of menstruation, which may be considered as the somewhat sudden stoppage of a constitutional drain, which in other instances is observed to have similar results. The imminence of the danger in such attacks may perhaps depend upon the abruptness of the menstrual obstruction.

Dr. Tyler Smith and Dr. Corfe have noticed the cerebral affection which occurs at this period. Dr. Smith considers it as allied to sphagiasmus: "the so called heats and chills of this period consist of a real paroxysmal affection, allied in its nature both to intermittent fever and epilepsy, particularly to the cerebral variety of the latter; sometimes it terminates in epilepsy or mania, or even apoplexy. In fact, this malady is a fruitful source of mania occurring in the female after the decline of the catamenia. The disorder I refer to appears to consist of compression of the veins of the neck, and distension of the cerebral circulation, attended by vivid sensations of heat, flushing of the face and neck, with giddiness almost amounting to insensibility. These symptoms are soon followed by relaxation of the neck, great coldness and chills, and faintness, with perspiration over the whole surface of the body. The paroxysms are sometimes so violent as to wake patients out of their sleep, and the apprehension of the attack produces the greatest uneasiness in excitable patients. These paroxysms occur many times in the twenty-four hours in women of delicate health at this epoch."*

Dr. Corfe states that the attack is more frequent in the morning before rising, or in the after part of the day, and that it is aggravated by a sense of hunger. The individuals most liable are those who inherit a gouty diathesis, who live freely on animal food, and who make great mental exertions. A spontaneous separation of the crystals of pure lithic acid will sometimes remove the disease.*

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* On Parturition and Obstetrics, p. 394.

228. *Treatment.*—Healthy females need very little treatment. A careful avoidance of cold, and of all causes which tend to excite local disease, some attention to diet and regimen, and an occasional purgative are all that is required. Delicate females will require much greater watchfulness, and a prompt attention to the first symptoms which indicate disordered action of the uterus, or of any other organ. Counter-irritation seems to be the most useful remedy we possess; and when this susceptibility to secondary attacks manifests itself, an artificial drain, by means of a perpetual blister, issue, seton, &c. should be immediately established.

In addition to a careful regulation of the diet, Dr. Corfe recommends the following draught to be taken every morning, if not too powerful:—

℞.	Ammon hydro-chlorat.	gr. x.
	Extr. Taraxaci . . .	ʒss.
	Dec. aloes comp. . .	
	Mist. Gentian. Co. .	āā ʒv.
	Sodæ potas. tartrat. .	ʒi.
	Tinc. Lavend. Co. . .	gtt. xx.

Ft. Haust.

and also to clothe the loins with the emplastrum opii, or a strip of new flannel. Warm baths, and friction with flannel or a hair glove, will be useful.

The attacks of menorrhagia must be treated as already recommended, and the local affections upon ordinary principles. Leeches, or counter-irritation, will be necessary in those of an inflammatory character, and stimulants, antispasmodics, or sedatives, for the hysterical or nervous.

CHAPTER VII.

CONSTITUTIONAL EFFECTS OF THE DISORDERS OF MENSTRUATION.

229. MOST of these effects having been noticed in the chapter upon menstrual disorders, it may seem almost superfluous to devote a chapter to them especially; but the subjects are so numerous, and the symptoms so apparently unconnected with the causes, that a somewhat further development of their history may perhaps be permitted.

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* Med. Times, Ap. 4, 1849.

Two classes, differing chiefly in degree, will, I think, include the principal varieties we meet in practice, as well as those described by authors. To the *first* or *milder form*, we may refer all the cases where the menstrual deviation is trifling or temporary, where it amounts to irregularity (in quantity, or quality, or time) merely, and where the consequences, primary or secondary, rarely extend beyond functional disturbance, and do not threaten life. This class has been admirably described by Dr. Addison,* Dr. Marshall Hall,† and others. In the second form, we include the severer or more protracted cases, where the uterine function is deteriorated or abrogated, without any effort for its re-establishment, and, when, in addition to the symptoms described in the first variety, we have the pallor, exhaustion, and secondary diseases consequent upon a state of anemia. This has received the name of *chlorosis*, owing to the color of the skin, and will require a distinct investigation.

In this chapter I shall enter briefly into the consideration of the *first form* of disorder I have noticed, or the derangement of the general health, resulting from a minor degree, or a more temporary disturbance of the menstrual function, whether that be amenorrhœa, dysmenorrhœa, or menorrhagia. The constitutional effects of these disorders come on very gradually in most cases: headache occurs occasionally, with languor, aching across the loins, uneasiness in the uterine region, and deficient appetite. The patient may continue thus a long time, with temporary ameliorations; but ultimately, where the uterine system does not improve, the general health will become worse and worse, presenting certain local, as well as general symptoms, which we shall now examine. The most prominent of these local phenomena are the following, which I have placed in the order of the frequency of their occurrence:

230. 1. *Pain in the head*, sometimes across the forehead, but often in the back part, occurring frequently without any apparent cause, of great intensity, seldom aggravated by light and sound, and but little affected by remedies.

2. *Pain under the left breast.* This is very characteristic, from its constantly occupying the same spot, about the size of the palm of the hand, a little to the outer side of the heart. It is not increased by a full inspiration, but occasionally there is some tenderness on pressure. The severity of the pain varies much. In many cases there is cough, with slight palpitation, or, to speak more correctly, a consciousness of the heart's action. The stethoscope reveals no morbid

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* Observations on Disorders of Females, connected with Uterine Irritation, by Thomas Addison, M.D., &c.

† Commentaries on some of the more important diseases of females, by Marshall Hall, M.D., &c. On the disorders incident to female youth, pp. 1, 15, 41, &c.

phenomena. From the peculiar locality of this pain, it has often been mistaken for splenitis or pleuritis, and treated accordingly; Dr. Addison, however, is inclined to place its seat in the cardiac orifice of the stomach. This may perhaps be doubtful, but there can be no hesitation in saying that the disease is not inflammatory.

3. *Pain in the back*, or rather midway between the pubis and the sacrum, and aching across the loins, increased very much when standing, and, when very severe, not relieved by lying down. In one patient under my care, it alternates with sick headache; as the pain in the back diminishes, she feels a stiffness and uneasy sensation ascending the dorsal and cervical spine, and then the headache sets in. When this transference of the pain is very marked, I have found the spinous processes of the vertebræ tender on pressure, and continuing so until the pain had subsided.

4. *A sense of tightness across the chest*, with occasional attacks of globus hystericus.

Upon examining my notes of cases, I find these four symptoms by far the most frequent, although many others are occasionally met with, and which have been accurately described by Dr. Addison.

These are,

5. *Pain under the margin of the ribs of the left side*, either confined to a point, or extending from the scrobiculus cordis to the loins. It is only occasionally increased by a full inspiration, but almost always by pressure. It occasionally shoots through the back, but rarely to the top of the right shoulder. It may be constant or intermitting, and, on its subsidence, it is succeeded for some time by fulness or tension, and it is often accompanied by a remarkable sallowness of the countenance. It is difficult to point out the exact seat of this pain: it may, perhaps, be in a part of the colon or duodenum, but it certainly is not an inflammatory affection of the liver, for which it might be mistaken.

6. *Pain in the course of the descending colon.*

7. *Pain in the course of the ascending colon.* In these situations, the pain is variable in intensity, intermitting for days, or even weeks, and aggravated by flatulence.

8. *Pain affecting the abdomen generally.* This is, in fact, a species of neuralgia, often simulating peritonitis, and only to be distinguished from it by some want of accordance in the symptoms collectively.

9. *Pain in the stomach.* Occasionally these two latter symptoms are relieved, but often aggravated by pressure: their previous history will enable us to trace their connexion with uterine derangement.

10. *Pain in the region of the kidneys*, sometimes spreading along the ureters to the bladder, in which case dysuria occasionally occurs.

I have also remarked patients who, when menstruation was irregular, were very liable to attacks of diarrhœa, with griping pain. These are the principal local symptoms of this Protean malady, any one or more

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chlorotic anemia, with all its distressing sequelæ. The best thing that can be done is to employ counter-irritation by blisters, &c. over the seat of the pain, renewing them at intervals. Particular attention must be paid to the stomach and bowels. At first a brisk purgative may be given, and this may be followed by some aloetic medicines in combination with some preparation of iron. Alterative medicines are sometimes beneficial. In some cases, hyosciamus or belladonna may be useful. I have seen the headache removed by a dose of laudanum, taken for another purpose. In these cases, it is particularly necessary to husband our resources, and to vary our mode of attack. There is no complaint more *capricious* (if I may so speak), both as to its appearance, and as to the effect of remedies.

CHAPTER VIII.

CHLOROSIS.

234. We next come to consider the severer form of the disorder of the general health, which has received the name of *chlorosis*, or "green sickness." And here we shall find more or less of the peculiar character of the variety just described, such as local pains, &c. but with evident aggravation. In chlorosis, the functional disorders are of a much graver character, especially where secretion is concerned: the patient is obnoxious to the sequelæ of anemia, and, in some cases, the constitution is reduced to the most favorable state for the incursions of organic disease.

235. *Causes.*—By some it has been attributed to the anemial state of the body, arising from various causes, such as bad nutrition, disease, loss of blood, &c., and by others, to deficient uterine action.

M. Roche[*] regards chlorosis as generally the result of menstrual derangements, although a similar disease, he remarks, has been observed in males.

M. Lisfranc[†] admits the influence of this function, and quotes M. Claud de Beaucaire,[‡] who has reported 26 cases, of which 7 were between the ages of 11 and 17. In 15, the menses recurred regularly, but were of a pale color. Cabanis assigns as the cause of chlorosis, the langour and inertia of the genital organs, and the deficient or irregular action of these organs upon those of nutrition and sanguification.

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[*] Dict. de Med. et de Chir. prat.

[†] Lisfranc, p. 217.

[‡] Revue Med, 1832, tom. 1, p. 587.

of which may be present along with the more general disturbance, and which it requires the nicest tact in diagnosis to avoid mistaking for the results of inflammation of the different organs. In addition, the organic functions are all *below par*, the sensibility is blunted, the mental powers depressed, and the patient is low-spirited, fretful, or indifferent. If we examine as to the state of the alimentary canal, we shall find the appetite more or less deficient or fastidious, digestion imperfectly performed, and the bowels irregular—sometimes constipated, sometimes too much relaxed. The skin is sallow or pale, and covered generally with a greasy moisture. The muscles feel soft and flabby. A peculiar cracked condition of the lips and fragility of the finger nails have been described by Dr. Hall. In severe or protracted cases, there is a dark areola beneath the eyes.

It must be borne in mind, that the assemblage of symptoms enumerated above, exhibits the most aggravated form of the disease, such as is rarely met with, and which can scarcely, when all are present, be distinguished from chlorosis. But there are many minor degrees of the disorder, in which all the symptoms are marked and characteristic, but which do not present so formidable an appearance in reality as on paper. In some few instances, the disorder is mitigated without the interference of art, and especially in those cases where the integrity of the uterine function is restored. It may, however, remain long stationary, or pass into chlorosis.

231. *Causes.*—It has already been stated, that in almost all cases, this disorder of the general health is connected with disturbance, and especially sudden disturbance, of the menstrual functions. I have observed a precisely similar train of symptoms follow long-continued uterine leucorrhœa or excessive suckling.

232. *Diagnosis.*—The diagnosis of a complaint with such suspicious local symptoms is somewhat difficult at first, and requires great attention. But by ascertaining the uterine disorders, menstrual or leucorrhœal, by noting the absence of fever and of quick pulse, by comparing the entire of the symptoms with each other, and by tracing the history of the disorder, the neuralgic or hysterical and constitutional affection may be distinguished from the results of inflammation.

233. *Treatment.*—The first object to which attention should be directed, is the removal or the mitigation of any of the special causes (Amenorrhœa, Leucorrhœa, &c.) The measures most likely to attain this object will be found detailed in the appropriate chapters.

But, over and above the special remedies required for the uterine disturbance, or independent of them if they are unsuccessful, something may be done for the relief of the secondary symptoms. For the purpose of obtaining temporary relief, local bloodletting is frequently employed; it is, however, specially to be deprecated, as besides the exhaustion resulting, and the slight benefit accruing from it (the pain returning, in most cases, after a few hours or days respite, with all its former severity,) it contributes to bring the patient into a state of chlorotic anemia, with all its distressing sequelæ. The best thing that can be done is to employ counter-irritation by blisters, &c. over the seat of the pain, renewing them at intervals. Particular attention must be paid to the stomach and bowels. At first a brisk purgative may be given, and this may be followed by some aloetic medicines in combination with some preparation of iron. Alterative medicines are sometimes beneficial. In some cases, hyosciamus or belladonna may be useful. I have seen the headache removed by a dose of laudanum, taken for another purpose. In these cases, it is particularly necessary to husband our resources, and to vary our mode of attack. There is no complaint more *capricious* (if I may so speak), both as to its appearance, and as to the effect of remedies.

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* Dict. de Med. et de Chir. prat.

† Lisfranc, p. 217.

‡ Revue Med, 1832, tom. 1, p. 587.

Dr. Blundell seems to regard the disease as owing to a deficiency of the circulating fluid. Dr. Fox attributes it to disease of the liver.

In the 3rd No. of Guy's Hospital Reports is a very elaborate paper on "Chlorosis and its complications," by Dr. Ashwell, then lecturer on midwifery in the Hospital School, and as the author is a man of intelligence and observation, I shall endeavour to give an abstract of his views. At page 530, he says, "The following are the principal positions which I shall attempt to illustrate:—1st. That chlorosis, complicated with amenorrhœa, is the most common derangement of the menstrual function; and that between these affections, although there are many points of similiarity, yet there are numerous marks of distinction. 2ndly. That if 'chlorosis complicated with amenorrhœa' be of aggravated character, or long duration, it will be productive of functional disturbance, at least of the nervous, vascular, respiratory, and digestive systems; and that if the disease terminate fatally, it will frequently, if not generally, be in phthisis. And 3rdly. That the treatment of chlorosis, to be extensively successful, must be early commenced, aud most sedulously prosecuted." The author does not regard chlorosis as resulting from amenorrhœa, but, on the contrary, as frequently causing it, or being in some way connected with it. He defines it to be "*a peculiar affection of the general health*, most frequently seen at the time when puberty is, or ought to be, established;" yet often commencing long before this period, and also being the cause of its delay; in short, a state of the constitution existing previously to menstruation, but which will be modified according to the integrity with which that function is developed. The subsequent declining health and consumptive tendency is not considered (if I understand Dr. Ashwell) as a result of a weak constitution, in the general acceptation of that word, or as a consequent of the imperfect establishment of menstruation, but that this imperfection and the deteriorated health result from the chlorosis.

I confess I am more disposed to admit the ingenuity than the correctness of Dr. Ashwell's hypothesis. I see no ground to call that degree of constitutional delicacy which precedes puberty (and equally in both sexes) by the term chlorosis, unless we disconnect that term from menstrual irregularity altogether; for it is certainly not consistent with the result of my own observation, to assume the identity of the prior constitutional delicacy with the severer secondary affection. We constantly see young women, of apparently healthy constitutions, in whom puberty was fairly developed, who subsequently become chlorotic, in consequence of menstrual disorders; and all must have noted patients in whom this tendency alternated with intervals of good health, answering exactly to the state of the uterine function. Again, the precursor of returning health to a chlorotic patient is generally a more copious and better colored catamenial discharge. All these observations tend to prove, it appears to me, that the primary disorder is to be be sought in some derangement of the menstrual function, which acting upon a susceptible constitution, induces all the secondary affections so characteristic of it; and by giving rise to a state of anemia, constitutes the disease which has been called chlorosis and which (the anemia I mean) in its turn entails a new series of grave and oftentimes fatal attacks. In the second part of his paper, Dr. Ashwell considers minutely the complications, or as I would express it, the consequences of chlorosis, both functional and organic, and adds thereto a number of instructive cases.

Sir Henry Marsh observes, that "the disease in reality consists not in a diminished quantity of blood, but in an altered quality, a diminished consistency of this fluid; herein lies its very essence, and any term which signifies the former, not the latter condition, is at least objectionable as applied to chlorosis. In chlorosis the blood undergoes a very remarkable change: its specific gravity is lowered; the clot is small and firm; the serum bears too large a proportion to the crassamentum; water is in excess; the red corpuscules are far below the healthy standard in quantity; their appearance, however, under the microscope is natural; and the fibrin, in the majority of cases, is normal in quantity, firmness, and adhesive power."*

The two great facts of the disease are the absence or incompleteness of the uterine action and the vitiated (diluted) condition of the blood; it may be difficult to pronounce either to be always the primary affection. When a similar disease occurs in men, it must be from the latter, but inasmuch as this is rare in the male sex, and very common in the female, we must attribute great weight to the different ovarian or uterine action in the production of the disease.

According to M. Cazeaux an analogous affection occurs sometimes in pregnant women, which has usually, but wrongly he thinks, been attributed to plethora.†

Sedentary habits, and close confinement, of course, favor its production, or indeed may be said to cause it by their injurious effects upon the sexual system. It may be said to be endemic in large manufacturing towns, and it prevails also among servants whose occupations confine them closely. Mental distress and the depressing passions are very influential in its production and progress.

235. *Symptoms.*—In illustration of what I have advanced, we find that not only are the headaches I have mentioned severe and often recurring, but that chorea, hysteria, and epilepsy are met with. There is also temporary loss of memory, diminished sensibility, torpor, &c.; in short functional disturbance running to the verge of organic disease.

The digestive system and its appendages are equally affected; there is vomiting occasionally, with constant nausea; dyspepsia, with its of iron, will be found the most useful. Dr. M. Hall prescribes a pill composed of equal parts of aloes and sulphate of iron. Dr. Ashwell gives the ferri ammoniat. The iodide of iron has been especially recommended by M. Solon,* and by Dr. Ashwell.† It seems particularly adapted to patients of a strumous habit of body, and who are obnoxious to glandular swellings. It may be given in doses of two grains a-day, in any vehicle not containing tannin or other astringent matter. In some constitutions it gives rise to headache, vertigo, nausea, heat, and a sense of weight at the hypogastrium; but these unpleasant symptoms may be removed by taking some carbonate of magnesia at night, by suspending the medicine, or by diminishing the dose.

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* Dublin Journal, Nov. 1846, p. 304.

† Archives Gen. de Med. March, 1850.

M. Blaud has highly recommended the following compound:—Take sulphate of iron and sub-carbonate of potash, of each half an ounce; reduce them to powder separately, and then mix them gradually; add some mucilage of gum tragacanth, so as to form a mass, which is to be divided into 48 portions; one of them is to be taken morning and evening for three days; then an additional one in the middle of the day for the next three days, and so on, increasing one or two every three days.

The effects are quite surprising, according to M. Blaud; the disordered health is speedily restored, and the deranged functions are rectified.

M. Adorne omits the potass. carb. The following form has been found useful.

℞ Ferri Subcarb. . . . . ℥i.
Sodæ Carb. . . . . ʒi.
Pulv. Nucis Moschatæ
—— Rad. Glycyrrhiz. āā . . ʒii.
Sach. Albi . . . . ℥ss.
Pulv. Calumbæ vel Zingib.
Pulv. Cinnamomi āā . . . . . . ʒiss.
Olei Anisi gutt. iv. Misce pulveres inter se in mortario.
Dosis—ʒi. bis terve die e lacte.

The powder is best kept in a wide-mouthed glass bottle, well corked, and measured out by a tea-spoon.

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compound aloetic pill, with the oil of cassia and hyosciamus; and the vinum aloës, with the compound tincture of rhubarb, are the forms of these medicines I prescribe. The combination with any purgative or aperient remedies, of mild cordials, is exceedingly important."—*Guy's Hospital Reports*, part iii. p. 552.

[*] Nouv. Dict. de Med. et de Chir. prat. art. Iode.

[†] Guy's Hospital Reports, part i. p. 128, and part iii. p. 555.

MM. Raciborski, Miquelard, and Quevenne prefer the metallic iron in a state of minute subdivision; it is prepared by passing a stream of hydrogen over an oxide of iron enclosed in a tube, exposed to a red heat.*

Sir H. Marsh considers drinking the natural water at a chalybeate spa the best mode of administering iron. The wine of iron is very suitable for children, alone or in combination with rhubarb. The citrate of iron and ammonia is valuable in those cases of chlorosis characterized by coldness of the extremities. Bewley's effervescing chalybeate is also praised, and justly; or the following formula may be used:

℞ Aq. Citratis Ammoniæ, . . . ʒiii.
Aquæ puræ . . . . ʒvi.
Syrupi . . . . ʒi.
Citrat. Ferri et Quinæ gr. i. to gr. iii.

It is to be taken three times a-day.†

M. Benedetti has reported most favorably of the tannate of iron, as being more effectual in a shorter time than the other preparations. The dose is from 5 to 30 grains daily.‡

M. Selade thinks that the proto-muriate, or hydro-chlorate, the carbonate, or the lactate of iron, are the best preparations.§

Other mineral and vegetable tonics deserve a trial, and will often be found useful.

Peculiar care will be required in adapting our treatment to the various functional aberrations. Counter-irritation by blisters, mild alteratives, mercurial inunction, &c. are all useful in their turn: and much benefit will often accrue from remedies acting upon the gastro-intestinal mucous membrane.

It may be a serious question, whether we are justified in using any of the medicines which act directly upon the uterus, until the constitution shall have rallied somewhat. Menstruation, however induced, is generally a favorable occurrence; but there are cases where the deficiency is not in the uterine action, but in the '*materiel*' to be acted upon, and here manifestly emmenagogues would be pernicious.

Stimulating injections into the vagina have been tried with success, as far as inducing the catamenial discharge. Dr. Ashwell observes: "The ammonial injection, composed of one drachm of the pure liquor ammoniæ to a pint of milk, daily injected into the vagina, has proved very efficient in the hospital." Marriage has occasionally cured chlorosis.

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* Ranking's Abstract, vol. i. p. 134.
† Dub. Med. Journal, Nov. 1846.
‡ Med. Times, Oct. 1846.
§ Archiv. Gen. de Med. Belge. Feb. 1845.

The patient should be warmly clothed, and take a fair amount of exercise. The diet should be nutritious, adapted to the condition of the digestive organs, and accompanied with a moderate allowance of wine.

In conclusion I would observe, that the treatment of the secondary affections must be left to the judgment of the practitioner; it is impossible to do more than point out the general principles by which we are to be guided.

CHAPTER IX.

IRRITABLE UTERUS.

238. We are indebted to the late distinguished Dr. Gooch for the recognition and description of this disease.* He gave it the name it bears at present, from the supposition that it has the same relation to inflammation of the uterus, which the so-called "irritable breast" and "irritable knee-joint" have to inflammatory affections of those parts. He has defined it as "a painful and tender state of this organ (i. e. the uterus), neither attended by, nor tending to produce, a change in its structure."

A very similar attack has been recently described by M. Valleix, who regards it as a neuralgic, and part of a more extensive lumbo-abdominal neuralgia.†

By other writers‡ it has been considered as a kind of chronic inflammation. Without questioning the accuracy of their observation, it appears to me that these authors describe an affection, probably, as they suppose, chronic inflammation, quite different from the one so ably delineated by Dr. Gooch. Certainly, in the cases I have seen, there was no ground whatever for the supposition of inflammatory action. Dr. F. Makenzie regards it as a sympathetic disease arising from irritation in other organs, which is reflected partially or entirely upon the uterine ganglia and nerves. This view is supported by a careful analysis of cases, which show the very considerable influence of gastro-intestinal irritation in the production of the disease.§

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* On the more important Diseases peculiar to Women, p. 310.

† Ranking's Abstract, vol. xii. p. 260.

‡ Dewees: Diseases of Females, p. 387. Davis: Obst. Med. vol. i. p. 348. Guilbert: Considerations pratiques sur certains affections de l'Uterus. 1826. Scott: Ed. Med. and Surg. Journal. Montgomery: Dublin Journal. Cyclopedia of Pract. Medicine, art. Uterus, pathology of.

§ London Journal of Medicine, May, 1851.

Dr. Gooch's patients were, most of them, married women: it does occur, however, in unmarried females as well, and with as well-marked symptoms. There is no limit, within the menstrual age, to the period at which it may arise, and it is seen in persons of every temperament.

239. *Causes.*—The most frequent causes are, bodily exertion when the uterus is in an irritable and excited state; as, for instance, a long walk during menstruation; going about immediately after abortion, or too soon after delivery; excessive coition, and astringent injections improperly used. These are the most striking causes; but it may come on after great fatigue merely, such as dancing, dissipation, late hours, long carriage-journies, &c.

240. *Symptoms.*—There is a deep-seated pain in the lower part of the abdomen, and in the back and loins, varying in intensity, but from which the patient is never quite free. It is greatly increased when the patient is standing or taking exercise, and generally diminished by lying down. There are exceptions to this, however. A patient of mine, laboring under this painful affection, and who cannot stand five minutes without agony, can yet travel in a half-reclining posture in a carriage for days together, not only without the slightest inconvenience or aggravation of her sufferings, but with manifest local and general improvement. Sometimes, also, paroxysms occur, even when the recumbent posture is strictly observed. It is also much more severe for a few days preceding and during menstruation. Cathartics aggravate the sufferings of the patient.

The menses generally return regularly as to time (anticipating a-day or two occasionally), but the quantity often varies from the usual standard. In some cases I have attended, they were scanty; in others, rather profuse. The quantity of the discharge differs in different women; it may be paler than usual, or it may be mixed with clots. In all the examples I have seen, the performance of the function has been exceedingly painful.

The patient is liable also to attacks of uterine leucorrhœa, though it by no means invariably accompanies the disease.

There is always some degree of constitutional sympathy, although less than might be expected, if the amount of suffering be considered. The pulse is ordinarily not more frequent than in health, but the slightest emotion will quicken it. The temperature of the skin and the state of the tongue are generally natural. Headaches, sometimes alternating with pain in the back, are frequent; the stomach becomes delicate, and the appetite deficient, and somewhat fastidious. The bowels are apt to be constipated. The patient also loses flesh; but some part of this, as well as of the gastro-enteric derangements, is fairly attributable to the privation of air and exercise, occasioned by the pain and the necessity for absolute rest.

If an *internal* examination be made, the uterus will often be found tender on pressure, in proportion to the amount of pain present. Indeed the tenderness is so great and so constant, that great suffering is experienced if the patient incautiously sit down too suddenly, and particularly upon a hard, resisting seat; and the "privileges of matrimony cannot be consummated without much suffering."*

The cervix and body are slightly swollen and tender, but not hard; the os uteri is unaltered, its edges are not indurated. The vagina is perfectly healthy. Although these phenomena are usually observed, yet in many cases no deviation from the normal condition (in size or sensibility) can be detected. The disease may persist for months or years, it may be arrested by medical treatment, or it may subside spontaneously. It offers an insuperable impediment to conception (as far as our present knowledge of it goes), but as it does not terminate in any of the organic uterine diseases, the life of the patient is not placed in jeopardy by it.

241. *Diagnosis.*—As pain in the back is the most unvarying symptom of uterine disorders, it alone will not throw much light upon the diagnosis of this disease; but its persistence during the intervals of menstruation, and its increase previous to each period; the absence of discharges not menstrual; the aggravation occasioned by the upright position, and by exertion; the slight constitutional disturbance; the tenderness of the cervix on pressure, with the other results of a vaginal examination, will enable us to arrive at a pretty correct conclusion.

It may be distinguished—

1. From *neuralgic dysmenorrhœa*, by the pain continuing more or less severe throughout the interval, instead of ceasing with the catamenia.

2. From *prolapse of the uterus or vagina*, with which it might be confounded on account of the distress on standing or walking; by the natural position of the contents of the pelvis; as ascertained by a vaginal examination.

3. From *any organic change*, by the absence of vaginal discharges, and by the natural condition of the uterus and vagina, as ascertained by an internal examination.

242. *Pathology.*—If I may judge from the cases which have come under my own observation, and which closely resemble those related by Dr. Gooch, I should have no hesitation in coinciding with the opinion of that distinguished physician, as to the nature of the disease. It appears to be a simple neuralgia of the uterus, of variable intensity, and of irregular duration, not very amenable to the resources of art, but not tending to disorganization. I have already mentioned, however, that several practitioners of eminence are inclined to consider it as a modified chronic inflammation of the uterus.

243. *Treatment.*—There is scarcely any disease which is so tedious of cure, and so liable to relapse. The slightest relaxation of the strictest regimen will often be followed by a recurrence of all the severe symptoms.

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* Dewees: Diseases of Females, p. 315.

The *indications* are—1st, To abate the pain. And 2nd, To amend the constitutional condition of the patient. For the fulfilment of the first indication, the patient must be kept in a state of absolute rest. She should either remain in bed (with the mattrass uppermost), or lie on a sofa the entire day, the shoulders being nearly on the same plane as the rest of the body. With very few exceptions, all personal exertion or carriage-exercise must be avoided. If the irritation be considerable, it will be advisable to have recourse to small (but if necessary, repeated) local blood-lettings, by scarifications of, or leeches to, the cervix uteri, or cupping the loins. In this, however, great caution must be observed, or much mischief may result.

Counter-irritation, by a succession of small blisters, of the size of a watch-glass, or by dry cupping, is of great service. The latter mode I have found peculiarly useful, because it occasions no inconvenience to the patient, and also because it can be used in many cases where blisters are inadmissible.

Much relief will be afforded by vaginal injections, at first of warm and afterwards of cold water, twice a day.

Narcotics, such as opium, hyosciamus, belladonna, &c. alone, or in combination with camphor or assafœtida, will often alleviate the pain; but should the stomach be too irritable, they will be found as efficacious given in the form of enema. Opium or belladonna plasters to the sacrum or abdomen are of service. I would strongly recommend the employment of the opium pessary or small suppository of opium, as being more effectual.

These means are to be employed with especial diligence and tact at the approach of the menstrual period, in order to mitigate, if possible, the suffering which accompanies that secretion.

The bowels must be kept free, but the medicine used for this purpose should be very mild, as intestinal irritation always aggravates the complaint. A warm bath has sometimes been found useful.

Mr. Fernandez is said by Dr. Gooch to have succeeded in relieving a certain class of cases by a mild course of mercury: this, however, requires great caution.

Mr. Hunt of Dartmouth has found small doses of arsenic very useful.*

The improvement of the constitution must be attempted during the menstrual intervals, and will be most likely to be effected by the exhibition of chalybeate tonics, by a well-arranged, nutritious, but not too stimulating diet, and, in the few cases where it can be borne, by carriage-exercise, or by remaining some time in the open air.

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* Medical Gazette, April 7, 1838.

CHAPTER X.

UTERINE LEUCORRHŒA.

244. The term leucorrhœa, or "whites," is applied by most authors to a whitish or colorless discharge from the vagina, whether it be the result of morbid action of the lining membrane of the uterus, the vagina, or both combined.

That either of these portions may be thus affected we should naturally expect, from the anatomical fact, that the membrane lining both cavities is continuous. I have already described such an affection of the vagina; and that the uterine membrane is similarly affected, is proved by *post mortem* examinations, where a quantity of this fluid has been found in the uterus.

Blegny found this whitish fluid accumulated in the uterus of a female subject to the whites. Blattin says that, in nine cases out of twenty-four that he examined, the discharge proceeded from the uterus. The older writers all allude to this disease of the uterus, and mention more or less of the symptoms, but without distinguishing it from vaginal leucorrhœa: several later British authors seem to have given up the question of such distinction altogether, and are content with describing, in an uncertain and confused manner, under the general term "leucorrhœa," the symptoms of two different diseases. Avicenna and Savonarola supposed the whites to be derived from the veins of the uterus. Sylvius, Cullen, &c. from the vessels which secrete the menses. Bonnet, Dolœus, Schneider, Morgagni, Riofrey, &c. from the lining membrane of the uterus or vagina. The first English author on midwifery speaks of a relaxed state of the uterus marked by a white discharge.*

Baglivi says, "Si verò durante menstruatione, fluor albus evanescat, et, eodem finito, denuò regrediatur, pro certo habeas mulierum fluore albo *uterino* laborare. Cætera signa fallunt, hoc verò constans est, et mulierum dolum apartè deludit."† Dr. Freind (1729) speaks of the fluor albus arising from a plentitude of humours, and vicarious of the menses; and he says that women in whom this is the case suffer less from the suppression of the menses than others.‡ Astruc (1762) describes a species of whites occurring periodically in chlorotic females, as a kind of substitute for menstruation, and which is also met with in others, commencing a few days before, and persisting some days after, menstruation. Manning (1775) says that fluor albus may arise from the vagina or uterus; but in speaking of the special causes, it is observable that they are not such as would act on the vagina, but only on the uterus. Leake (1781) considers it a disease of the womb and its contiguous parts, and he speaks of it as supplanting the menses; it proceeds, in his opinion, from the vessels which are subservient to menstruation. Denman mentions, that it may proceed either from the uterus or vagina; and that the fluid may be either the natural discharge increased in quantity, or an acrimonious secretion. Dr. Cullen has described the distinctive marks of this disease better than almost any other writer. Dr. Alexander Hamilton distinguishes the uterine from vaginal leucorrhœa, and describes very accurately the different kinds of discharge.

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* Byrthe of Mankinde, by Thomas Raynalde, 1634.

† Prax. Med. lib. ii. ch. viii.

‡ Emmenologia, p. 105.

Dr. Burns describes, though very shortly, the two varieties, and points out the increase of the uterine leucorrhœa before the eruption of the menses. Dr. Locock considers it difficult to establish a distinction, and does not attempt it. Dr. Blundell treats on vaginal leucorrhœa only. Dr. Lee remarks, "Our repeated examination of the uterus after death have rendered it certain, that in many instances of leucorrhœa the fluid is secreted by the lining membrane of the uterus, and not by that of the fallopian tubes or vagina."

Almost all French writers mention this variety, and indeed generally restrict the term leucorrhœa to a discharge of uterine origin. Gardien and Capuron thus treat of it. Nauche calls it "Catarrhe uterine," and points out very accurately the varieties connected with menstruation. Boivin and Dugès allot a chapter to it; and a very good account of it is given in the Dict. de. Med. et de Chir. prat., art. Leucorrheè. Girard observes, "Il nous est tres rarement arrivè de trouver l'uterus completement exempt de leucorrheè."* M. Marc d'Espine, has given the result of his researches with the speculum on the subject of leucorrhœa.† He notices its continuance during the menstrual intervals, and also its occurrence just before or just after the menstrual evacuation. The climate of the middle and north of France seems most favorable to its production; and women with very light or very dark hair seem most liable to it. The character of the constitution seems to exercise very little influence. Out of 19 women subject to whites habitually, 6 were robust, 9 were moderately strong, and 4 weakly. An examination with the speculum gave the following result in 193 cases:—In 23 the uterine orifice was found dry; in 40 there was just a drop of discharge in the orifice; in 130 the discharge was abundant. The orifice may be quite healthy, pale, red, or bright red, and occasionally it is granulated and bloody. The following table will exhibit the character of the discharge, and the state of the uterine action, in 111 cases.

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* Rev. Med., Dec. 1837. See also Lisfranc: Mal. de l'Uterus, p. 246. Nivel and Blattin: Arch. Gen. de Med., Oct. 1839. Siebold, Joerg, Steinberger, and others describe the uterine variety.

† Arch. Gen. de Med., Feb., 1836.

	Orifice healthy.	Orifice reddish.	Orifice deep red and granulated.
Aqueous discharge	7	3	1
Albuminous transp. discharge .	30	6	6
Album. semi-transp. discharge, streaked blue, grey or yellow	13	19	10
Opake discharge, streaked . .	3	7	6
	53	35	23

I think the authorities I have adduced are sufficient to prove the existence of uterine leucorrhœa, based upon practical observation; but if more scientific evidence were required we are now possessed of it, for Dr. Tyler Smith's recent researches* have not only elucidated the differential anatomy of the canal of the cervix, but established the value of the distinction between vaginal and uterine leucorrhœa. He considers leucorrhœa is principally from the extensive glandular surface of the canal of the cervix. Instead of a plug of mucous discharged at each catamenial period, he states that there is a profuse discharge containing quantities of mucous corpuscles, and oily particles, with particles of epithelium entangled in the viscid alkaline plasma. He calls this form the mucous leucorrhœa.

We cannot doubt that the distinction must be important for the right understanding of the pathology of this part, as it is for the successful treatment, inasmuch as the two organs (uterus and vagina) differ as much in functional peculiarities, as in the sympathetic derangements which their diseases produce in distant organs, and in their effects upon the constitution generally. Nor is this extraordinary, for we know (in the case of other parts) that the same disease of different portions of a membrane may exhibit altogether different morbid phenomena, dependant (in many instances) upon the subjacent tissue or organ. It is on this principle that I would explain the differences in the train of symptoms and constitutional suffering, which may be observed in vaginal and uterine leucorrhœa, where the disease is essentially the same. That in some cases the diagnosis may be difficult, and in a few impossible, must be admitted; but that in by far the larger number it can be satisfactorily established, I have no doubt.

Believing the separate existence of this disease, as well as its combination with a similar affection of the vagina, to be beyond question, and conceiving the distinction to be possible in most cases, I shall now describe it as it has presented itself to me in practice.

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* Pathology and Treatment of Leucorrhœa, 1855.

245. Before, however, I proceed to detail the symptoms and course of the disease, it may be well to point out the circumstances under which it occurs, not only as illustrative of its nature, but as affording *data* for our diagnosis.

1. In young females of delicate constitution, it is not uncommon to find a secretion of "whites" at one or two of the monthly periods preceding the development of the catamenia, and vicarious of them. Cases of this kind repeatedly occur, and it has been already pointed out how much their treatment must be modified by the discovery that the uterine system is already in action, although giving rise to a morbid product for want of proper "*materiel*" to act upon.

2. In suppressed menstruation, the subsequent monthly periods are often marked by a discharge of "whites," nearly the same in quantity, and continuing as long as the natural secretion.

3. The intervals of menstruation may be occupied by uterine leucorrhœa; in these cases the discharge increases two or three days previous to the appearance of the menses, and re-appears in great quantity after their subsidence. It not unfrequently happens, that the uterine leucorrhœa ultimately supersedes the catamenia, and becomes vicarious of that discharge. This is by far the most common variety of uterine leucorrhœa, and as it does not at first interfere with the regular return of the "courses," it is very liable to be passed over unnoticed.

4. Menorrhagia is occasionally caused, and very often accompanied by this white discharge, which increases just before and after the menstrual periods, and sometimes occupies the interval. This complication appears to add much to the distress of the patient, and the menorrhagia is not easily relieved until the leucorrhœa is cured.

5. About the "cessation of the menses," the few last periods are often marked by the occurrence of "whites," instead of, or alternating with, the proper menstrual discharge.

6. In chlorotic patients, uterine leucorrhœa is often vicarious of the menses. I had a patient in whom this substitution continued many months.

7. After abortion, a white discharge is, in many cases, secreted either constantly or occasionally, for some months, and this condition of the uterus appears to predispose to successive abortions.

8. After child-bearing, when the distinctive character of the lochia has disappeared, this inodorous white discharge will often continue for a month or six weeks: or, in females confined for the first time, we may observe, at the termination of the first, or more frequently of the second month after delivery, a considerable flow of "whites," which may either cease after two or three days, or in smaller quantity become persistent. The menses sometimes appear subsequently, and supersede the uterine leucorrhœa. The occurrence of this discharge, at this par-

ticular time, occasions great alarm, from a supposition that it indicates serious disease of the uterus.

246. These are the principal circumstances under which I have observed the disease, and in which little doubt can be entertained as to the source of the discharge. In all the varieties it exists either concomitantly with, or immediately succeeding to, an evident uterine affection, or it is complicated with menstruation. In the former, there is an *a priori* presumption that the discharge is from the uterus; and in the latter, the effects of the periodical determination of blood to that organ, upon the quantity of the secretion, would seem to point to a similar interference, especially when we find that no such augmentation is observed in vaginal leucorrhœa. At the same time, it cannot be denied that vaginal leucorrhœa may also be present in any of the foregoing cases, although the uterine disorder be predominant, and modify all the symptoms. Neither is it asserted that all cases are as obvious, and as easily to be made out, as it would appear from the description on paper.

247. We are now prepared to consider more closely the nature and progress of this disease. It may be defined as *a more or less profuse discharge of fluid, varying a good deal in quantity and color, but neither accompanied nor followed, necessarily, by disorganization of the tissue of the womb.* According to Dr. Tyler Smith the seat of the disease is the canal of the cervix and not, or at least in very few cases, the uterine cavity. It is quite possible that this may be the case generally, but I have more than once had positive proof that the lining membrane of the uterine cavity was involved.

It may attack females of all ages; the *acute* form is more frequent in younger, the *chronic* in elder persons. It is observed in women of every temperament, according to the peculiar cause. In the leucophlegmatic, in whom, from deficient "*materiel*," the uterus appears unequal to the secretion of the florid catamenia, or in whom, from constitutional causes, the vessels of the mucous membrane lining the womb are in a state of unusual activity; in the plethoric and robust, in whom the circulation, rapid and energetic throughout the whole system, is peculiarly so in the sexual organs during their functional life; and in the melancholic, whose mental depression so frequently aids in the aggravation of what was originally a trifling malady, and whose fears are acutely alive to any disorder affecting these parts.

248. *Causes.*—These are so numerous, that I can do little more than mention them. They consist partly in the ordinary and extraordinary local stimuli, partly in more general impressions, and partly also in certain states of the constitution. Amongst the latter, we find deficiency of secretive energy, as exhibited in those cases where uterine leucorrhœa is vicarious of, or introductory to the menses; frequent abortion or child-bearing, over suckling, scrofulous habit, &c. It may also result from cold, fatigue, deficient nourishment, too stimulating

diet, certain localities or atmospheric changes, sedentary employments, suppression of eruptions, &c. Of the first species of cause (local stimuli), we may enumerate excessive coition, the use of emmenagogues, stimulating injections, the irritation arising from a pessary in the vagina, or from worms in the rectum, &c.

249. *Symptoms.*—The attack itself may be either *acute* or *chronic;* the former is comparatively rare, though I have seen some well-marked cases of it. I was indebted to the kindness of my friend the late Dr. Graves (amongst many other favors) for the opportunity of observing and treating a case of this kind in the Meath Hospital. The patient was about thirty years of age, had borne one child, and had not menstruated at the time I saw her, for seven months, during which time there had been a constant discharge of whites, increasing for a few days every month, and latterly becoming very profuse at each period. Hysteric paroxysms occurred three or four times a-day; pulse about 90; skin rather above the natural heat; some thirst. She suffered much from spasmodic retention of urine. On examination, I found the cervix uteri somewhat puffy and tender, but neither enlargement of the uterus nor heat of vagina. I ordered the loins to be cupped, and a blister applied subsequently. Vaginal injections of tepid water were administered twice a-day, and the bals. copaibæ was given. These measures afforded much relief. In the course of a week the discharge diminished greatly, and the menses re-appeared; and by persevering in the same plan of treatment for about a fortnight longer, she was discharged cured.

M. Lisfranc has described a very severe form of acute uterine leucorrhœa, much more aggravated than any I have seen. He says, "Often, after some inappreciable cause, an unpleasant itching of the genitals is felt, increasing until it reaches to the uterus; to this is joined a sense of heat and weight in the pelvis. The hypogastrium becomes tense, and sensible to the touch. The womb seems to press inconveniently upon the perineum. The patient experiences dragging about the loins, extending to groins, hip, sacrum, and thighs. There is frequent desire to pass water. The pudendum often participates in the tumefaction of deep-seated parts, and hence, standing and moving is very painful; and if the swelling of these parts be considerable, it may be impossible to remain in a sitting posture. This state is ordinarily accompanied by a nausea, lassitude, and 'malaise;' sometimes by pains in the joints. About the third or fourth day, if the disease be not previously arrested by appropriate treatment, a clear, limpid, viscous discharge escapes from the vulva."*

The chief difference between this and the chronic form consists in the greater degree of local suffering and constitutional excitement present. The pulse is quickened, the skin is hotter than natural, and there is some thirst. The patient is very liable to hysteric paroxysms.

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* Mal. de l'Uterus, p. 249.

If an internal examination be made, the cervix and body are somewhat tender to the touch, and perhaps slightly swollen. There is no perceptible increase of heat, and the discharge does not differ from that observed in the chronic form. The uterine irritation may be communicated to the bladder and urethra, giving rise to spasmodic retention of urine. If these cases be not cured, they subside gradually into the chronic state.

250. In the slighter and more recent cases of *chronic uterine leucorrhœa* the symptoms are mild, and there is but little distress experienced; degree of langour, occasionally weakness in the back and loins, a headache now and then, the complexion paler than natural, with an unusual degree of moisture about the external parts of generation, are the principal variations from the healthy condition. But in the more aggravated cases, and especially in those where the leucorrhœa has gradually encroached upon and superseded the catamenia, the effects are very severe. There is considerable local suffering, a constant aching or pain in the back, or, to speak more accurately, midway between the sacrum and pubes (i. e. in the uterus), a sensation of weight in the pelvis, and occasionally of bearing down. As a variety of severe uterine or cervical leucorrhœa, we must include the disease described by Sir C. M. Clarke under the term "*white discharge;*" and which he conceives to depend on inflammation of the glandular structure of the cervix. Dr. Tyler Smith has shown that the glands of the external surface of the cervix are very few, whilst those of the canal are extremely numerous, and also that the white creamy discharge is owing to the action of the acid vaginal discharge upon the alkaline cervical mucus. I think, therefore, we need have little hesitation in including it under this head.

The constitutional distress is also in proportion; the patient complains of langour and indisposition to exert herself, of great exhaustion and debility; the pulse is generally small, weak, and rather quicker than natural; the skin has a yellowish or greenish tint, sometimes flabby and moist, at others dry and hot; the eyes appear sunken, and are surrounded by dark circles; in short, the case may closely resemble chlorosis. The headaches are frequent and very severe, but without evidence of vascular excitement; there is no intolerance of light or sound. In many cases the pain is seated in the back part of the head. Vertigo and fainting are not uncommon. Sympathetic pains in distant parts form a very characteristic part of the suffering. The tongue is seldom dry or loaded, it is generally of a yellowish red color, flabby and indented by the teeth. The appetite diminishes, and becomes fastidious; and torpor of the bowels succeeds, with deficiency of the hepatic secretion. There is occasionally observed an eruption (acnè punctata or rosacea) on the forehead and face.

An examination, *per vaginam*, reveals sometimes, though rarely, a slight enlargement of the body of the uterus, with some tenderness on pressure in the *acute* form, but little on none in the *chronic*; the os uteri is rather more open than in the healthy state. More frequently, however, no additional information is gained by this examination.

An examination with the speculum may show the mucous membrane of the cervix pale, slightly rose color, deep red, or spotted; but no inference can be drawn from this as to the nature of the discharge.

The discharge varies very much in quantity. I have known it so profuse as to oblige the patient to use several napkins in the course of the day. In most cases, it is nearly colorless and semi-transparent: it has, however, been observed of a greenish or brownish tinge. It possesses different degrees of consistency, from the ordinary thin mucus up to the gelatinous or curdled fluid described by Hamilton and Nauche. It is generally of a bland character, and does not irritate the parts with which it comes in contact; but in a few instances I have known it to be very acrid, causing excoriation of the labia and surrounding skin.

Dr. Tyler Smith has given a minute account of the character of the discharge. In the different forms are found, 1. alkaline plasma, 2. mucous corpuscles, 3. altered cylinder epithelium, 4. pus corpuscles, 5. blood globules, 6. fatty particles.

We may see by the speculum, the discharge issuing from the os uteri, sometimes preserving its tenacious character, and hanging as a mucous rope into the vagina; clear and colorless when it issues from the os, but its external surface gradually whitened by the action of the vaginal acid. In simple cases it consists of an increase in the ordinary secretion, but in other cases it is changed by the addition of pus, blood, or fatty particles. When very profuse, instead of the ordinary consistent plasma, a watery serum is poured out.

I have already referred to the question, as to whether a discharge of this kind may give rise to a discharge in the male, and I have stated two cases which seem to bear upon the point.

The *duration* of the disease is variable. The cases connected with the menstrual function are generally the most prolonged. The attack may cease spontaneously after running a certain course, or it may be cut short by the use of appropriate remedies. It is very rare to meet with a case which resists all our efforts.

251. *Pathology.*—From the constitutional characteristics of many individuals thus affected, it has been supposed that uterine (as well as vaginal) leucorrhœa originates in debility, a condition the opposite to inflammation. That the general system may be in such a state is very probable, but it by no means follows that the individual organs are so. On the contrary, we know that in many cases of constitutional weakness, the cause must be sought in the inflammatory condition of certain organs. In the present instance, this appears to be the case; for if we

consider the local distress, the increased secretion, the course of the disease, and the remedies which are most successful, we can have but little hesitation in attributing all to the effects of inflammatory action, generally subacute or chronic, of the mucous membrane lining the uterus and cervical canal. As to the identity of the vessels engaged with those which secrete the menses, an opinion advanced by some authors, it is very difficult to speak decidedly. In some cases, as where uterine leucorrhœa becomes vicarious of the catamenia without any intermediate steps, it appears not improbable that the vessels may be the same, though the products are so different.

M. Mojon de Genés believes that the extra permeability of the capillaries of the uterus is the condition which gives rise to leucorrhœa. But this mechanical hypothesis leaves us without any means of explaining the series of vital phenomena which result, and which can only be accounted for on the supposition of deranged vital action.

252. *Diagnosis.*—Uterine leucorrhœa may be confounded with uterine gonorrhœa, or with vaginal leucorrhœa, &c.

1. From *uterine gonorrhœa* it is with difficulty distinguished, unless by the previous history of the patient. In uterine gonorrhœa (when acute) there is generally a burning pain all along the genital canal, with pain on coition. The discharge is of a deeper color than in leucorrhœa, and there may be scalding on passing urine, with urethral discharge.

2. From *vaginal leucorrhœa* it may be distinguished by the circumstances in which it is observed, as for example, after abortion and delivery; preliminary to, and vicarious of, the first menstruation, &c. or by its peculiarities at the menstrual epochs, and its greater effect upon the constitution. I have already stated that when uterine leucorrhœa occurs during the intervals of menstruation, the discharge is always increased after the catamenia cease, and most frequently before they appear; and that it gradually encroaches upon the due performance of that function, rendering the flow less copious or less regular. As far as my experience goes, no such phenomena occur with vaginal leucorrhœa. Again, after careful investigation of many cases, I doubt very much whether vaginal leucorrhœa ever gives rise to the severe constitutional symptoms I have detailed, and which are very often attributed to it; at any rate, I am sure that such cases are very rare. The results of any mode of treatment are perhaps scarcely fair grounds of diagnosis, but they may afford some confirmation of an opinion derived from other sources; and I have invariably found that astringent injections, so beneficial in vaginal leucorrhœa, are injurious in the uterine variety. Dr. Jewel, in the excellent little work I have quoted before, proposes a test for uterine leucorrhœa, founded on the supposition that if the discharge be from this cavity only, it will not issue therefrom during the night, when the patient is lying down. If a sponge be introduced over-night, and removed before

rising in the morning, and there be no discharge upon it, he concludes that the vagina is unaffected, and that the leucorrhœa by day is uterine. If the contrary be the case he regards the vagina as the seat of disease. No doubt this ingenious method may be decisive in some cases—in all cases, indeed where there is no discharge on the sponge; but this will only happen where the discharge is so small as to be contained in the cavity of the womb (which is about the size of an almond). If it be more than this it must escape, no matter what be the posture of the patient; and so the sponge may be soaked therewith, without the vagina participating in the complaint. Moreover, in all cases where the two species of leucorrhœa co-exist, and in which generally the predominant *symptoms* of the uterine affection are very recognizable, this test is inadequate as affording evidence of the vaginal disease only, and mischievous as leading us to overlook the uterine affection.

If the case be simple, the fact that the uterine secretion is alkaline and the vaginal acid ought to be a valuable assistance to us, but as they are frequently combined it will be of less value; the curdy state of the discharge Dr. Smith attributes to the mixture of the two fluids of opposite re-action. Moreover, we cannot, in many cases, test the secretion; I think it would not be right to insist upon an examination in all cases merely for this purpose.

3. From *erosion and ulceration of the cervix*, only by the use of the speculum: the local and general symptoms are very similar; the finger alone is inadequate to detect the difference, but the speculum will show that in one case the surface is unbroken, though it may be inflamed; in the other we shall find congestion, with superficial destruction of the mucous membrane.

4. From *the contents of an abscess of the uterus, ovary, or cellular membrane, discharged through the vagina*, by the sensible and microscopical qualities of the purulent matter in the latter case, and by their absence in leucorrhœa; by the absence of previous symptoms of uterine or ovarian disease, and by the actual symptoms of uterine leucorrhœa.

253. *Treatment.*—There is no more striking distinction between the two species of leucorrhœa, than is to be found in the effects of astringent injections. In vaginal leucorrhœa, they are extremely successful; the symptoms are ameliorated, and the discharge arrested without any unpleasant consequences. This is not the case in uterine leucorrhœa; if no evil results from their employment, the patient derives no benefit, but continues to labor under the discharge for months together. In other cases, I have known them to cause great irritation, with menorrhagia, and an aggravation of the local distress. It is otherwise, however, with injections of tepid or cold water. I have seen the greatest benefit from such, especially when Higginson's syringe is used, so as to keep up a gentle, but continuous stream of water.

In cases of the *acute form* of uterine leucorrhœa, it will generally be advisable to commence by cupping the loins, or applying leeches to the vulva. After this, hip-baths and vaginal injections of warm water (a uterine warm bath) may be employed until the acuteness of the attack has subsided, and the patient is in a condition favorable to the application of counter-irritation. At this stage in the *acute*, and at any period in the *chronic* form, a blister may be applied to the sacrum, and repeated once or twice, if necessary. Its effect, in most instances, is an immediate diminution of the discharge, and a mitigation of the local uneasiness.

There are four medicines from which I have seen benefit derived.

1. Balsam of copaiba, given in increasing doses, commencing with fifteen drops three times a-day; or, if the stomach be delicate, it may be made up into pills.

2. Preparations of iron, and especially the sulphate, the pernitrate, and the tinct. ferri muriat. The mode in which I have exhibited the former is in combination with blue pill, and the compound rhubarb pill. It improves the condition of the digestive system, and appears to exert a decided influence over the leucorrhœa.

3. Decoction of logwood. In two or three cases in which I made trial of this medicine, it seemed to be very useful: the discharge diminished, and the patients were ultimately cured.

4. Ergot of rye. This remedy has been highly recommended by MM. Roche, Dufrenois, Bocquet, Negri, Ryan. &c.; and, in some very obstinate cases in which I prescribed it, it succeeded after the failure of other medicines.* I give it in doses of five grains three or four times a-day.

These are the remedies which I have found the most efficacious, but their effect is greatly increased by the previous application of the blister.

Dr. Huston is inclined to think favorably of M. Vidal's recommendation to throw a solution of nitrate of silver into the uterus, in obstinate cases. It no doubt may be easily done, but the consequences seem, as yet, very doubtful; in some cases it succeeds without distress, in others the pain is very severe, and in others it has proved fatal. In some obstinate cases, the application of nitrate of silver over the cervix and inside the canal is of great use, and I have also been successful in a number of cases by painting the cervix over with strong tincture of iodine once or twice a-week.

There are other medicinal substances which have their advocates; powdered colchicum root was recommended in a recent number of the American Journal of the Medical Sciences, but it failed in my hands. The complaint is said to have been successfully treated by cortex simaroubæ,* cubebs,† crab's eyes,‡ tinct. cantharadis,§ and the root of the elder tree.‖ Iodine has been highly praised for its effects. MM. Brera, Gimelle, Sablairolles, and Müller are said to have used it successfully in old and obstinate cases.¶ Gimelle gives an ounce of the syrup of iodine, evening and morning, in some appropriate infusion.** Benefit will probably be obtained from the chalybeate waters.

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* Lisfranc: Mal. de l'Uterus, p. 379. *Note* by M. Pauly.

When the disease is on the decline I have seen much comfort derived from sponging the back, loins, and lower part of the abdomen with tepid or cold salt water. The state of the stomach and bowels should be carefully attended to. Should constipation occur, a combination of blue pill with rhubarb, or of aloes with asafetida, followed by a moderate dose of castor oil will be advisable. Emollient enemata are also very useful.

Conium, hyosciamus, or opium may be given, if there be much local or general irritation. Cleanliness is of the utmost importance; the external parts should be washed with tepid water, or milk and water, two or three times a-day, and carefully dried afterwards. If there be any excoriation, the use of a lotion containing sugar of lead, or black wash, will probably remove it.

The patient should be comfortably, yet not too warmly clothed, especially about the loins and hips. Air and exercise are of the greatest service, when so taken as not to add to the uterine irritation; this caution is peculiarly necessary when the patient is recovering.

Sea-bathing at the proper season may be allowed, after the discharge has entirely ceased.

It is scarcely necessary to add, that all possible causes must be removed or avoided.

I have rarely found this mode of treatment fail; even after a relapse (to which patients are very obnoxious), a steady perseverance in the use of the remedies I have recommended is almost always rewarded by success.

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* Med. Commentaries, vol. vii. p. 443.

† Edin. Med. and Surg. Journal, vol. xvii. p. 312; vol. xviii. p. 318.

‡ Med. Commentaries, vol. i. p. 325.

§ Edin. Med. and Surg. Journal, vol. vii. p. 176.

‖ Delens: Brit. and For. Med. Rev. April, 1837, p. 508.

¶ Art. Iode, by M. Solon, in Nouv. Dict. de Med. et Chir.

** Cases in Journal Univ. des Sciences Med., tom. 25, p. 5.

CHAPTER XI.

PHYSOMETRA. UTERINE TYMPANITES.*

254. This term is applied to an accumulation of gaseous fluid in the uterus, which occurs under very different circumstances. It may be a secretion by the lining membrane of the uterus, especially after certain diseases;† or it may arise from the decomposition of a portion of the placenta, of a clot,‡ or of some of the lochia; and consequently is much more common in women after childbearing than at any other time.§

In the majority of cases, the os uteri is completely closed, whether by induration and contraction of the canal of the cervix, or by some temporary obstruction; but in others, the canal of the cervix being pervious, the air escapes sensibly almost as soon as secreted. This circumstance will, of course, cause a considerable difference in the symptoms. The evidences of accumulation will be altogether absent in the latter cases. It is said that the air may be drawn up into the vagina, in a relaxed state of these parts, by the motions of the muscles in the neighbourhood; and this, I suppose, is what Doctor Hamilton means by attributing it to a "relaxation of these parts."‖ Astruc says that when the uterus does not contract air will fill the void; and if the os uteri at the same time be closed, physometra will result.¶

Dr. Gooch states his experience thus:—"Air is formed in this organ (the uterus), but instead of being retained so as to distend it, it is expelled with a noise many times a-day. It has been doubted whether it really came from the uterus, but in one of my patients there was a circumstance conclusive on this point; she was subject to this infirmity only when not pregnant; but she was a healthy and breeding woman, and the instant she became pregnant her troublesome malady ceased. She continued entirely free from it during the whole of her pregnancy, but a few weeks after her delivery it returned.**

It has been known to occur during gestation, after the death of the fœtus, or it may occupy the place of the false waters (that is, between the chorion and amnion,) the fœtus being alive. Baudelocque saw a case where the gaseous exhalation took place after death, and was sufficient to expel the fœtus.*

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* Astruc: Diseases of Females, vol. ii. p. 187. Baillie's Morbid Anatomy, p. 394. Capuron: Mal. des Femmes, p. 188. Nauche: Mal. propres aux Femmes, vol. i. p. 150. Boivin and Dugès: Diseases of the Uterus, &c. p. 134. Nicolani: Br. and F. Med. Rev. vol. xiii. p. 246.

† Burns' Midwifery, p. 186, last edit.

‡ Dugès: Dict. de Méd. et de Chirur. prat., art. Physomètre.

§ Macintosh: Practice of Physic, vol. ii. p. 411.

‖ On Female Complaints, p. 19.

¶ On Diseases of Women, vol. ii. p. 188.

** Diseases of Women, p. 241.

All persons engaged in the practice of midwifery must have observed the escape of gas, often fœtid, from the vagina, during an operation. This must have accumulated in the uterus, as in many such cases the pelvis is filled by the child's head. In the idiopathic physometra, the gas is inodorous, but not so when the result of decomposition: in the former case nothing but air is contained in the womb; in the latter, especially when the source is the ichorous discharge from a cancerous ulcer, there is fluid also contained in it. It must not be forgotten that there may be explosions of wind from the vagina, without accumulation in the uterus;† and Hamilton conceives that this may occasionally be owing to a communication between the vagina and rectum.

255. *Pathology.*—It is very difficult to speak decisively upon this point, as to those cases where the disease is idiopathic, because of the scantiness of the information derived from *post-mortem* examinations. Mr. John Hunter endeavoured to elucidate this subject by minute enquiry, but failed. In one case where he made a *post-mortem* examination, he found no disease in either uterus or vagina.‡ Dr. Hooper saw a case in the living subject, but never post-mortem. That mucous membranes, in an unhealthy state, do secrete gas, we have abundant proof, but whether as the result of chronic inflammation or as a mere functional disturbance, may perhaps be doubtful; on the whole, I am inclined to believe that the lining membrane of the womb is in a state of sub-acute or chronic inflammation. Peter Frank mentions a case in which, after death, the uterus was found enlarged, hard, and elastic, filled with gas of a very fœtid odour. Its interior was ulcerated, and its orifice hard and corroded internally. In another case, the orifice was closed by a polypous growth.§ To this must be added the important fact of the obstruction (temporary or permanent) of the canal of the cervix. This may be caused by viscid secretion, by false membrane, or by that process of gradual obliteration by the increasing density of the structure of this part in advanced age, to which I have before referred. As to that variety when the gas is merely accumulated in the uterus from an obstacle to its exit, the origin of the gas is easily explained, by supposing a decomposition of such portions of placenta, clots of blood, or cancerous ichor, as may be contained in the womb. The change is simply chemical, and does not

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* Dict. de Med. art. Pneumatose, p. 198. 1827.

† Denman's Midwifery, p. 72, last edit.

‡ Work on the Animal Œconomy, p. 206.

§ Vol. iv. p. 50, of the French translation.

See Cyclopedia of Practical Medicine, art. Pathology of the Uterus, vol. iv. p. 363.

necessarily involve disordered action on the part of the uterine membrane. This explanation applies also to those cases when the gas escapes during an obstetric operation; there is no reason to suppose it to have been produced before the commencement of labor, unless the child have died previously. As to its occurrence between the amnion and chorion, it may arise from the decomposition of the jelly-like fluid ordinarily found there.

256. *Symptoms.*—The three most prominent symptoms are precisely those which are so characteristic of pregnancy. The menses (according to the almost universal testimony of authors) are suppressed, the abdomen enlarges, and milk is secreted. The amount of accumulation, according to Astruc and others, seldom appears to be very great, and the bulk of the uterus not greater than in the fourth or sixth month of gestation; but Peter Frank quotes the case of the wife of a German physician, in whom it extended from the pubes to the diaphragm.* Before it can enlarge much, something generally causes its expulsion. Blows, falls, bending forward, forcing at stool, sneezing, coughing, or vomiting, &c. may effect this, and give rise to a loud explosion, followed by a discharge of fluid. When this occurs frequently, as it is entirely involuntary, it puts the patient "*hors de société.*" The breasts increase in bulk, not merely by addition of fat, but by the enlargement of the mammary gland, and a thin fluid is sometimes secreted, such as we find before delivery. In most cases, there is neither pain nor uneasiness, except what may arise from the bulk; nor does the patient complain of either weight or heat; but in others, the distress is considerable; there is heat and stinging pain in the tumor, extending to the groins, thighs, and vulva; and in the case of the German lady I have alluded to, it was so great that she was unable to move a limb.† The pressure of the distended uterus upon the neighbouring viscera may interfere with the due performance of their functions; the appetite becoming delicate, and the bowels constipated. Conception is generally prevented for the time being; but in two Paduan ladies, quoted by P. Frank, it occurred immediately on the expulsion of the gas. And in Dr. Gooch's case the physometra was cured by conception. If the disease be often reproduced, there is danger of its giving rise to ascites. The abdominal tumor is elastic, and, when percussed, yields a clear loud sound. A vaginal examination will show the os uteri higher than usual, and the cervix diminished in length. When the cervix uteri is pervious, the general symptoms only will be present, with occasional explosions of air.

It need scarcely be said, that when physometra proceeds from derangement of the mucous membrane, it is much more tedious than in cases of accumulation merely.

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* Op. Citat. vol. iv. p. 49.

† Carus' Gynæcologie, vol. i. p. 308.

257. *Diagnosis.*—1. It may readily be mistaken for ***pregnancy***, but it is distinguished from it by the resonance of the tumor, by the absence of ballottement, fœtal movement, and the signs afforded by auscultation, and by the occasional pain.

2. From *hydrometra*, by the greater elasticity of the abdominal tumor, and by its resonance.

3. From ***ascites***, by the defined shape of the tumor, by its resonance, and by the absence of fluctuation.

4. From ***scirrhous or steatomatous enlargement of the uterus***, by the elasticity and resonance of the tumor.

Additional light will be thrown upon the question by the occurrence, previously, of explosions of air from the vagina.

258. *Treatment.*—The ***first indication*** is to empty the uterus of the air, and the ***second*** to prevent its subsequent secretion or accumulation.

Astruc, and the older writers, advise our exciting vomiting or sneezing, or setting the patient to jump about, having previously employed warm baths; and if this do not succeed, we are to move about the cervix uteri with the finger. It may be all very well to try these methods, as they do no harm, but in most cases we shall ultimately be driven to the only plan upon which reliance can be placed, and that is, the introduction of a canula or elastic male catheter through the os uteri and canal of the cervix, into the uterine cavity. The air will escape through the canula (the size of which must be suited to the canal), which is to be kept ***in situ*** till the uterus is quite empty. Great care and gentleness are necessary, and it will require rest and good management for a few days afterwards, to avoid inflammation.

But though the first indication be thus fulfilled, this is a small part of the cure, as the gas would shortly be secreted again. Injections of warm water into the womb itself should be used once or twice a-day, for some time after the operation; and if the disease result from decomposition of offensive matter, it will by this means be removed. In more obstinate cases we are advised to inject weak solutions of chlorine, or astringent lotions, or mineral waters. Denman recommends the Bath waters. Warm baths and '*douches*' have been found useful. I should expect a good deal of benefit from vaginal or uterine injections of nitrate of silver; its antiseptic properties are as marked as its powers of changing the morbid action going on in mucous membranes. It may be necessary to give tonic medicines internally, where the constitution has suffered; and benefit may be in some cases also derived from mild alteratives, such as Plummer's pill.

CHAPTER XII.

HYDROMETRA. UTERINE DROPSY.*

259. This disease consists essentially in the excessive secretion of fluid, and its accumulation in the uterus, in consequence of the obliteration of the canal through the cervix, or the closure of the os uteri.

It may be considered as *idiopathic*, when the fluid is secreted by the mucous membrane lining the cavity; and *symptomatic*, when it is the discharge from an ulcer, and retained in the uterus, owing to the closure of the ordinary outlet. In some few cases it has also assumed a periodic character.†

Frank describes four species of hydrometra. 1. The cellular, when the effusion is immediately underneath the serous membrane of the uterus. 2. The independent, the fluid being in the uterine cavity. 3. The hydatic. 4. Hydro-physometra, where both fluid and air are contained in the womb.

Carus adopts the same division, and enumerates the following symptoms as characteristic:—1. Interruption of digestion through loss of appetite or disgust of food; vomiting, costiveness, flatulence and pain in the lower belly. 2. Weight and pressure in the pelvis. 3. Gradual diminution of the urine. 4. Prolapse of the vagina, or even of the uterus, as the consequence of atony of the sexual system. 5. Œdema of the external parts of generation and of the lower extremities. 6. Slow fever.‡

It occurs principally in married women not advanced in years,§ and, judging from this circumstance, Dugès‖ supposes that it may have some connexion with the function of generation. Dr. Grandidier, however, has recently related a case which occurred in a female aged 21, and unmarried. By the aid of ergot of rye, a large quantity of clear water was expelled, and the patient recovered;¶ it also occurs during pregnancy. Dr. Purdon has also related a case which occurred in an unmarried woman, æt. 18. The enlargement was accompanied by morning sickness, and terminated by labor pains and the expulsion of a yellowish serous discharge, which continued for weeks.** The fluid contained in the uterus varies very much in quality. At an early period of the disease in the *idiopathic* variety, it is most frequently serous, albuminous, or mucous; as the disease advances, however, if the deeper uterine tissues become involved, it changes to a thick, offensive, dark-colored matter.

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* Baillie's Morbid Anatomy, p. 393. Capuron: Mal. des Femmes, p. 167. Boivin and Dugès: Diseases of the Uterus, &c. p. 136. Siebold: Frauenzimmerkrankheiten, vol. i. p. 531.

† Bull. Gen. de Therapeutique, May, 1838.

‡ Gynæcologie, vol. i. p. 303.

§ Amer. Med. Journ. Oct. 1850, p. 313.

‖ Dict. de Med. et de Chir. prat., art. Hydrometre.

¶ Ranking's Abstract, vol. ix. p. 187.

** Dublin Journal, Feb. 1850.

In *symptomatic* hydrometra, the fluid is generally mixed with puriform matter or blood. In one case, when death was caused by gangrene of the intestine, the os uteri was obliterated, and the uterus resembled a pouch filled with a greenish liquid pus, "evidently the result of chronic metritis." In another, the womb was distended with a colorless aqueous fluid containing albumen, and which had been discharged from a cancerous ulceration of the cervix. The quantity of the contained fluid differs much; in many instances it never amounts to more than one or two pints, further distension forcing a passage for the fluid; in others the uterus is as large as at the termination of pregnancy. Blankard says that it contained 85lbs. of an ichorous and oily fluid in one case. Versalius relates another, where 180lbs. were found. Bonetus goes still farther, and mentions an instance of distension to such an amount, that the uterus was capable of containing a child of six years old. Dr. Shanks has published a case in which he drew off fifty pints of fluid by three operations, and after the two last he injected tincture of iodine in water with success.*

There are two very interesting cases, which I may be allowed to quote; the first is related by Dr. T. A. Thompson, in the Medico-Chir. Trans. vol. xiii. part i. p. 170, and the second by J. M. Coley, Esq. Bridgenorth, will be found in the Transactions of the Provincial Association. Dr. Thompson's case is as follows:—

"Mary Rae, æt. 65, mother of several children, was admitted into the infirmary in December, 1823; she appeared somewhat emaciated, and complained of uneasiness and pain, connected with a tumor in the abdomen, which she first perceived about six weeks prior to her admission into the infirmary in April, although from a sense of delicacy she had not mentioned it at the time. It was situate at the lower part of the abdominal cavity, rising, at it were, out of the pelvis, and occupying the iliac, hypogastric, and umbilical regions. She appeared as large as if six months gone with child. An indistinct fluctuation was perceptible in the tumor, and the least pressure on it excited pain. It was suspected to be a diseased ovarium, but no examination was made *per vaginam*; nor could it be ascertained, from the account the patient gave of its origin, whether it had first appeared on either side of the abdomen. The accompanying symptoms, however, denoted a greater derangement of the system than usually attends dropsy of the ovarium. These were want of appetite, considerable nausea, furred tongue, pulse quick and feeble, and the bowels irregular, and the urine scanty and high-colored. In the beginning of March, 1824, she died, after amputation of the leg, which operation had been performed in consequence of a dry gangrene which had attacked the limb. *Dissection.*—The first object which presented itself, on the abdominal parietes being divided and turned aside, was a body closely resembling the gravid uterus, occupying the whole of the pelvic cavity, and the greater part of the abdominal. Upon its anterior surface, and firmly adhering to it, was the urinary bladder, containing a small quantity of dark-colored urine. On laying the flaps of the abdominal parietes together, the stretched bladder was found to extend to within an inch of the umbilicus; so that it must have been perforated if the trocar had been used to evacuate the fluid during the life of the patient under the supposition that the disease was ovarian dropsy. The tumor was immediately ascertained to be the uterus greatly enlarged, and filled with fluid; it was partially sphacelated on its peritoneal covering, at the upper portion of the fundus. With regard to the other viscera, the liver was much diminished in size, and adhered to the diaphragm throughout; the gall-bladder was large and turgid, with deep-colored bile; the stomach, colon, and other intestines, with the omentum, were glued together in many places, and sometimes were evidently in a state of sphacelation. This gangrenous appearance extended to the peritoneum in the hypochondriac region. On removing the diseased uterus from the body, and making an incision into it, the quantity of fluid which it contained was found to measure eight quarts; it was of a dark brown color, and coagulated slightly when heated in a spoon over the flame of a candle. The existence of a large hydatid within the cyst was expected, but this opinion was incorrect, the sac being merely the uterus, in the cavity of which the fluid is contained. The internal surface of the organ was not more irregular nor more spongy than in its natural state; but none of the orifice could be found, for even the os uteri was, interiorly, as completely obliterated as if it had never existed; and although its situation could be traced in the vagina, yet even there it was very faintly marked. The ovaries were small and flaccid, but otherwise natural."

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* Amer. Med. Journ. July, 1854.

Mr. Coley's case I copy from a review of the Provincial Trans. in the Medico-Chirurgical Review, for October, 1836. "May 12, 1834. A female, æt. 36, mother of two children, the youngest nine years old, had been confined to bed for four months with a tumor in the region of the uterus, attended with obstinate constipation, hectic fever, and extreme emaciation. On examination, Mr. Coley found a painful irregular tumor in the hypogastrium, resembling that produced by the uterus in the sixth month of pregnancy, exceedingly tender to the touch, hard and prominent on the left, and comparatively flattened and elastic on the right side of the abdomen. The pain she felt was of a shooting kind, constant, and varying in degree of intensity. The os uteri was sound, and a little dilated. The cervix was closed, and three-fourths of an inch long. The adjoining parts of the distended uterus, within reach of the finger, were of a stony hardness, unequal on the surface, and exquisitely tender, especially in the left side. The vagina also was particularly tender, and during the last four months, afforded at intervals a dark-colored, offensive, thick discharge, with portions of a membranous substance. Menstruation had ceased, and the breasts were enlarged and firm. From her own account, it appeared, a year and a half previously, gradual enlargement of the abdomen commenced, with suppression of the menses; that she then believed herself to be pregnant; and that at the end of seven or eight months from the commencement of this state, a sudden discharge of offensive fluid, with portions of a membranous substance, proceeded from and completely reduced the volume of the uterus. In March, Mr. Coley saw her again, and could discover no fluctuation in the uterus, from the vagina. At the latter end of March there was a slight hemorrhage from the vagina, preceded by the detachment of a thick piece of abnormal membrane. About the middle of May, peritonitis occurred; this was followed by purpura, and on the 15th she died. *Dissection.—May 17th.*—Extreme emaciation. Thickening of the serous membranes, and adhesion of the omentum and abdominal peritoneum to the serous coat of the uterus, especially at that part which, during life, felt so hard and irregular. Evidence of surrounding peritonitis. The fibrous portion of the body of the uterus was so disorganized, that it was not thicker than an ox's bladder, and in some places it was altogether destroyed by an ulcerative process, which had commenced in the mucous membrane. On slight pressure being applied, the peritoneal coat at one spot, being free on both surfaces, gave way, and a thin dark-colored, offensive fluid, resembling that which proceeds from an ulcerated intestine, and containing portions of coagulable lymph, to the amount of three pints, escaped. The fibrous coat was quite destroyed at other parts, as well as the spot where the rupture took place; and the uterus, on been divided, collapsed like wash-leather, being generally reduced in thickness to the eighth of an inch, and having entirely lost its firmness and elasticity. In short, the principal support and figure of the organ were dependent on its indurated peritoneal coat, except at the inferior part, near the cervix. The whole of the internal or mucous surface of the uterus was found in a state of '*ramollissement*,' or of that species of ulceration observed in the mucous coats of the intestines, in certain fatal diseases of these parts. The cervix was obliterated, with the gelatinous secretion peculiar to the state of utero-gestation; and the walls of the uterus, adjacent to that part, were enlarged, and consolidated with a tuberculous mass, the principal portion of which was deposited in that part which rested against the rectum, and obstructed its passage. This morbid production consisted of a uniform white structure, and was free from those radiating bands, that grisly feel, and irregular surface, discoverable in scirrhous indurations."

260. *Pathology.*—The result of *post-mortem* examination are very

different: in Dr. Thompson's case the uterus and its lining membrane were perfectly healthy: in Mr. Coley's case, there was found the greatest degree of disorganization; both the mucous membrane and the proper tissue being in many places destroyed by '*ramollissement.*' Dugès mentions that the walls of the uterus are often the seat of scirrhosities, ulcers, and hydatiform or polypoid tumors. Evidences also of chronic metritis have been found. We observe that these circumstances, except the softening of the uterine tissues, have one tendency, at least in common, viz. to increase the secretions from the mucous membrane, whether its normal character be preserved or changed. And this appears to be the primary pathological condition for the production of idiopathic hydrometra. The second condition is the impermeability of the passage from the womb, which may be owing to a morbid growth blocking up the inner orifice,* to obliteration of the canal, or to a membrane covering the os uteri externum.

Dr. Burns† differs from this view, but considers the disease as one large hydatid filling the uterine cavity. That this may be the case sometimes, we have testimony of Denman, who saw a bag of the shape of the uterus, which had been expelled from the organ after the discharge of the fluid. The same author mentions certain temporary collections of fluid which occur after child-birth, and which are evacuated before they cause much distension.

With regard to *symptomatic* hydrometra, the pathological condition giving rise to the fluid is generally sufficiently obvious, the immediate cause of the accumulation being the temporary or permanent impermeability of the cervix uteri. There is a variety of hydrometra which sometimes comes under our notice, in which the phenomena are less prominent, but of which the termination may be equally fatal; I allude to those cases where, in consequence of the condensation of the tissue of the cervix uteri in advanced life, the canal is obliterated, and an accumulation of the normal secretion takes place. No morbid action is discernible until a process of thinning of the parietes at some one part (like the *pointing* of an abscess) commences, which terminates in rupture.

261. *Causes.*—Very often it is impossible to discern any direct cause; in some cases a blow on the abdomen may have excited irritation in the uterus.‡ Some authors have attributed it to a debility of constitution, and others to a universal serous diathesis.

262. *Symptoms.*—The accumulation takes place very gradually, so that the uterus is able to accommodate itself to the new circumstances in which it is placed, without the development of any remarkable symptoms. This is especially the case when it occurs in women who

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* Macintosh: Practice of Physic, vol. ii. p. 411.

† Midwifery, eighth edition, p. 125.

‡ Frank: Traitè de Med. prat. traduit du Latin, iv. p. 182.

have had many children, or shortly after delivery. When the womb is not dilatable, as in elderly females, the symptoms of over-distension are the sooner evident. In some cases of *idiopathic*, and in almost all of *symptomatic* hydrometra, it would appear possible to detect the presence of the pathological cause of the increased secretion. After the disease has existed for some time, a tumor of the size and shape of the enlarged uterus may be perceived at the lower part of the abdomen: it feels elastic, is moveable, and yields a dull sound on percussion, with a sense of fluctuation. As the accumulation increases, there is a degree of tenderness on pressure, and occasional dull pain and uneasiness in the tumor. Certain mechanical inconveniences result also; the patient finds it difficult to stoop forward, and a degree of dyspnœa is present. The menses are almost always suppressed, although Monro, in his work on dropsy, says that there are exceptions. Leucorrhœa (vaginal of course) is sometimes present. The urine is generally small in quantity, depositing a brick-dust sediment. Sympathetic irritation of the breasts is often excited; they enlarge, and feel knotty and glandular. Nauche saw the ordinary milk fever succeed to an evacuation of the fluid of hydrometra.

At first, there appears to be but little constitutional suffering; but in the more advanced stages, the contrary is observed. The pulse becomes small and quick, the skin dry and hot, the tongue furred, the appetite bad, and the bowels irregular.

The finger introduced into the vagina will be able to detect the tumor, and indentify it with that in the abdomen; it will also recognize the diminution of the neck; but there is no evidence that the uterus contains a solid body in addition to the fluid.

The patient may die from exhaustion, in consequence of the secondary fever; or the womb, unable to dilate more, or weakened in some part by previous or present disease, may give way, and the contents escaping into the peritoneal cavity, fatal peritonitis may result immediately. This is the usual consequence of obliteration of the canal of the cervix in old women.

263. *Diagnosis.*—1. From the abdominal enlargement coincident with the suppression of the menses, and the sympathetic irritation of the breasts, the disease may be easily mistaken for *pregnancy;* but the absence of fœtal movement (quickening), of stethoscopic phenomena, and of "*ballottement*," will often enable us to distinguish them; and the presence, in hydrometra, of the constitutional symptoms I have enumerated, will further aid us. Nauche adds, that the distension is more uniform, and that the uterus is rounder and softer than in pregnancy.

2. The dull sound on percussion, the fluctuation, and the greater gravity of the symptoms, will distinguish it from *physometra.*

3. From *ascites and ovarian disease*, the distinction will be founded mainly on the limited form of the tumor; its being unaffected by

position; its identity with the uterus, established by vaginal examination, and the minor degree of fluctuation.

4. From *scirrhous* '*engorgement*' of the uterus, by the fluctuation and softness of the tumor, and the absence of the nodulated surface of scirrhus.

264. *Prognosis.*—From the gradual progress of the disease, the uterus becomes accustomed to the presence of the fluid, and the distress is so far lessened. If the occlusion of the passage from the uterus be incomplete, so as to permit the occasional escape of the fluid, there is but little danger. There is a case related by Fernel, where the fluid was discharged monthly; and one by Richard Browne, (quoted by Dugès) in which pregnancy occurred twice, with alternate accumulation and expulsion of fluid from the uterus, without any effect upon the progress of gestation. But when the os uteri is completely closed, the prognosis is very serious; for if the accumulation continue to increase, rupture of the uterus, and death, will ultimately occur, unless relief be afforded by art.

265. *Treatment.*—The *first indication* is clearly to evacuate the contents of the uterus. If this can be done by any sudden shock, as coughing, sneezing, vomiting, so much the better; but if not, a canula or catheter must be passed (if possible) into the cavity, and maintained there until the uterus be emptied. Should the neck be impervious, there can be but little doubt as to the propriety of puncturing it with a trocar, or an instrument like the one used by Mr. Stafford for perforating stricture of the male urethra. This operation is certainly not without danger, as metritis may result; but the situation and prospects of the patient fully authorise our running some risk.

Puncture of the uterus above the pubis has been recommended, and Wirer thus extracted 32lbs. of thick fluid from a female æt. 53, who recovered perfectly. Nevertheless, it is a much more hazardous operation than the one previously mentioned.

Dr. Fantonetti has succeeded in emptying the uterus by means of the ergot.*

After the complete evacuation of the uterus, our next object will be to arrest the extraordinary secretion from the mucous membrane, or at least to prevent the re-accumulation of the fluid, no matter how produced or whence derived.

Astruc recommends, for this purpose, diuretics and purgatives, and we may add alteratives. Counter-irritation to the sacrum will probably be found useful. Uterine injections of mineral waters, or of astringents are said to be of great use.

The general health must not be neglected. Air and exercise, when obtained without fatigue, will on this account be of great service.

Little can be done, in cases of cancerous disease, towards remedying the primary affection; but the os uteri can be kept pervious by the occasional passing of the canula, and so the distress from over-distension is avoided.

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* Lond. Med. and Surg. Journal, Dec. 2, 1837.

It must be confessed, that many of the cases of recovery on record were but little indebted to medical treatment—the disease either subsided spontaneously and gradually, or was relieved by conception and utero gestation.

CHAPTER XIII.

MOLES, HYDATIDS,* ETC.

266. The term *mole* has been rather vaguely applied to almost every shapeless mass which issued from the uterus, whether this proved to be coagulated blood, detached tumors, or a blighted conception.

So long as this term is made to include productions so very dissimilar, all our views must be indefinite; the recent French writers have therefore rejected all such matters as those I have noted, and have given the term a more limited and intelligible signification.

With them I shall divide moles into three species. 1. Blighted conceptions. 2. Fleshy moles. 3. Hydatids.

267. I. *Blighted or false conception*, as it is commonly called, is not intended (as has been supposed) to signify any imperfection in the act of generation, but merely that the vitality of the fœtus having been destroyed, the object of utero-gestation has failed. In most of these blighted ova, the fœtus is altogether wanting, having been dissolved in the liquor amnii; we may, however, generally discern the

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† Ruysch's Observations in Surgery and Midwifery (1751), pp. 66, 73, 83, 141. Manning on Female Diseases (1775), p. 357. Consult also, Lamzweerde: Historia naturalis molarum uteri, 1686. Sandifort: Obs. Path. Anat. lib. ii. p. 78. Haller: Disput. Med. tom. iv. pp. 715, 745. La Motte: Traite de Accouchemens, b. 1, ch. 7. Mauriceau: Observ. sur les Accouchemens. Obs. 367. Vigarous, tom. i. p. 11. Nauche: Mal. Prop. aux Femmes, vol. i. p. 183. Capuron: Mal. des Femmes, p. 268. London Med. and Phys. Journal, vol. ii. p. 122. Foerg: Krankheiten des Weibes, p. 562. Siebold's Frauenzimmerkrankheiten, vol. ii. p. 380. Clarke: Diseases of Females, vol. ii. p. 116. Baillie's Morbid Anatomy, p. 393. Blundell: Diseases of Women, p. 197. Simpson on Diseases of the Placenta. Ed. Med. and Surg. Jour. vol. l. Boivin and Dugès: Diseases of the Uterus, &c. p. 152.

remains of the umbilical cord attached to some part of the inner surface. In addition, the membranes (chorion and amnion) may be traced, with the placental development on some portion of the periphery of the ovum. Still the whole mass will be found a good deal changed in size, form, and structure, by the effusion of blood, and the formation of coagula between the membranes, or in the placenta, by decomposition of lymph, and sometimes by apparently quite new and perfect layers of membrane.* It is these very changes which probably caused the death of the fœtus. We can easily comprehend how very frail the tenure of life must be at an early period—we see it broken by mental or bodily shocks; by vascular or nervous irregularity; and by any deviation from normal structure, such, for instance, as a tumor at the root of the cord, or the cord being inserted where the floculi of the chorion are deficient, or into a part where the placenta is *not*. In this state it is seldom retained for more than two or three months, but, if not expelled, it may degenerate into a fleshy mole.† It is not always easy to distinguish a blighted ovum which has been retained in the womb, from a recent abortion, as in the latter the fœtus may be wanting.

268. II. The *fleshy mole* is, in all probability, a transformation of the former species; it has become of a denser texture and more shapeless; the coagula or depositions appear to have been gradually more or less organized.

These moles may present themselves in the form of solid masses, or they may contain a central cavity possessing a distinct lining membrane, and in which there yet remains some of the liquor amnii. The obliteration of this cavity is said to be owing to the absorption of the fluid, or to its escape through some rent in the membrane.‡ The solid moles are generally much larger than the hollow ones, and of a more irregular form. Externally they are rugged, compact, and lobulated, of a circular or oval figure, and occasionally covered by a thin layer of calcareous matter.§ The larger ones are about the size of the two fists. If the texture be examined a little more closely, it will be found solid, but not very dense, spongy like the placenta, but more filamentous in some parts; in others consisting of fibrinous clots, and also portions of the fœtus, such as one or other extremity. The limbs of two fœtuses have occasionally, though very rarely, been discovered. There is generally but one mole. If the conception have been double, and one ovum have perished, we ordinarily find the other preserved and healthy;

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* Dr. Granville's "Illustrations of Abortion."

† Boivin and Dugès: Diseases of the Uterus, p. 152. Brit. and For. Med. Rev. Oct. 1839, p. 567.

‡ Murat: Dict. des Sciences Med., art. Mole.

§ Duges: Dict. de Med. et de Chir. prat., art. Grossesse.

although there are instances of two ovum moles at the same time in the uterus.[*] Manning considers them more common at the decline of life, but this is contrary to the experience of all other writers. They require to be carefully distinguished from coagula and detached polypi, and this may be done by making an incision, and ascertaining the structure of each.[†] There is a variety of the fleshy mole which is worthy of distinct notice. It is figured in Denman's plates, in Granville's illustrations of abortion, and there is a specimen in the museum of the College of Surgeons in this city, and another in Dr. Montgomery's museum. The texture of the ovum is much more dense than natural, especially the placental portion, which has very much lost its spongy feel; the membranes are unaltered, and when opened, the inner surface of the placental portion consists of tuberculated projections of different sizes, from a pea to a walnut. Into one of these tubercles the cord is inserted, and the fœtus in consequence has perished. The lining membrane appears quite healthy. From the slight change this ovum has undergone, we might hesitate in calling it a mole, were it not pretty evident that it has been retained in the uterus for some time after the death of the fœtus. The development of the fœtus is inferior to the volume of the ovum generally.

269. III. *The vesicular mole or hydatids.* The development of these hydatids may be traced very accurately. We find them in small numbers on the outside of the ovum, as yet unchanged in form;[‡] we may see them gradually encroaching until they obliterate the figure altogether; and they may be observed growing from the placenta, or a portion of it.

This view will explain the division made by Boivin and Dugès[§] into,—1. The vesicular mole, containing the embryo. 2. The hollow vesicular mole, the fœtus being anencephalous, or altogether shapeless. And 3. The clustered vesicular mole, where the hydatids are attached to a central part of more solid matter, as grapes are to the stalk.

The quantity of hydatids contained in the uterus varies very much, reaching sometimes to a considerable amount. When the quantity is not very great they float in the fluid contained in the uterus: and when they form upon an ovum, the whole is enclosed in the membrana decidua. The individual hydatids vary in size from a pin's head to a grape, and in shape too, being sometimes elongated or round, but more frequently oval. According to Nauche,[*] they each possess three coats: the external, serous, thin, and transparent; the middle, fibrous; and the internal, mucous. Both white and red vessels may be seen running on their surface. They contain a fluid which, in the smaller ones, is transparent, and in the large, of a straw-color; I have seen it of a beautiful pink. It is less dense than distilled water; does not turn vegetable blues red; but turns syrup of violets, green; it is coagulable neither by heat nor acids. It is aqueous or gelatinous, but never albuminous.

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[*] Blundell: Diseases of Women, p. 198.

[†] Burns' Midwifery, p. 123. Ed. Med. and Surg. Journal, vol. v. p. 257.

[‡] Diseases of the Uterus, p. 158, et seq.

[§] Dubreuil: Revue Medicale, Novembre, 1836. Wrisberg: Nov. Comment. Gotting., tom. iv. p. 73. Leray: Nouv. Journal de Med. Mai, 1822.

Formerly these hydatids were believed to have an independent existence, and were ranged amongst the acephalocysts. Pallas, Linnæus, and Percy call them tenia hydatigena. This supposition is abandoned by all recent writers. They are known to have remained in utero longer than the other kind of moles. Dugès relates a case where 15 lbs. weight of hydatids were discharged, which had been five or six years accumulating.

There is more danger at the time of their expulsion,[†] than with the other species; for, as they may be discharged by instalments, the portion that remains in the uterus often keeps up the flooding which accompanies the evacuation.

270. *Pathology.*—The first question with regard to these morbid growths is not merely interesting as a pathological fact, but highly important as a point in legal medicine, viz. Are they the results of conception, and consequently of sexual intercourse? With regard to many of the substances formerly included under this head, there was abundant ground for a negative answer; but, with respect to those I have described, they are generally regarded as the result of conception. Lamzweerde asserts that they cannot be produced "sine copula maris." Ruysch speaks of moles discharged from maids and old women who "have never used men;" but such were evidently fibrinous clots; and of "pseudo-molæ," growing from the placenta, and, of course, subsequent to impregnation. Manning says they may be the result of abortion or of degenerate ova, but he likewise includes coagula amongst moles. Puzos speaks of them as degenerated conceptions. Denman and Burns regard the fleshy moles (excluding coagula and polypi) as most probably the result of conception, and neither hesitates a moment in attributing hydatids to this cause. Nauche denies their independent vitality, and though he generally believes them to be caused by impregnation, yet (because of the story of the 'Chanoinesse,' &c. vol. i. p. 191,) he hesitates in assigning this as the sole cause. Capuron

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[*] Mal. propres aux Femmes, vol. i. p. 183.

[†] A fatal case is related in the Lancet for Feb. 1, 1840.

terms a mole 'conception dégénérè.' Mad. Boivin* states that they are degenerated ova, and always the consequence of impregnation. Dugès† agrees entirely with Mad. Boivin. Sir C. M. Clarke thinks that hydatids may be found without previous sexual intercourse, and Gardien takes the same view. Dr. Evory Kennedy says that "hydatids may occur in virgins." Dr. Montgomery‡ excludes polypi and coagula from the list of moles, and the remaining species he conceives to be always the result of impregnation. He says, "my own belief then is, that uterine hydatids do not occur except after sexual intercourse, and as a consequence of impregnation; never having met or heard of a case in which their presence was not accompanied or preceded by the usual symptoms of pregnancy. Still it must be confessed, that our knowledge on this point is by no means sufficiently precise, nor our collection of facts sufficiently extended, to warrant us in pronouncing positively on the question, or asserting decidedly in a case of suspicion, that a woman was pregnant, merely because she discharged hydatids from the uterus, &c. &c."

Dr. F. Ramsbotham has suggested,§ and I think with great reason, that the ordinary clustered hydatids being an enlarged and dropsical condition of the villi of the chorion, and implying impregnation, there may yet occur in the uterus, as in the liver, the formation of true hydatids acephalocysts; and he quotes a case related by Mr. Wilton of Brighton‖ as illustrative of this position, so that the opposite opinions I have quoted may both be correct, because referring to different diseases. By the kindness of my friend Dr. M'Ewen of Chester I have been furnished with a case in which there was no evidence whatever of sexual intercourse, and which would therefore confirm Dr. R's opinion. Dr. M'Ewen says: "In the first place I may state that the lady is now 48 years of age, unmarried, and the last attack was in August, and I attended her; her brother-in-law, with whom she lives, being out of town. She informed me that the catamenia appeared when she was 14 years of age, and until she was 19 she enjoyed good health. Her health then began to fail, and her father, who was a medical man, was much puzzled to account for her symptoms. He had consultation after consultation with the most eminent men in this neighbourhood and London, and all failed in giving relief. She had in her 19th year her first attack of passing hydatids, and scarcely a whole year has elapsed since that period that she has not had an attack. The symptoms in every instance very much the same, viz., slight enlargement of the lower abdomen, increase in size of the breasts, tenderness over the pubes, invariably on the left side along the brim; occasionally there is an inclination to be sick in the morning, and loss of appetite a day or two before the attack comes on. She can always say when the attack is about to come on, as it is ushered in with all the symptoms accompanying early abortion. One of the most remarkable features in her case is, that during all this period the menses have never been suppressed; she is regular to a day; and it has frequently happened that the menses will come on during an attack. She always looks forward to it, as she says she always feels better during the period. After the period is over the hydatids will return until they are all expelled; she will then continue well for over ten months, until another attack comes on. She has, upon two or three occasions, had hemorrhage when passing hydatids, but not to any great extent. During her last attack, in August, she passed several hydatids as large as a good sized egg, membranes and fluid perfectly transparent; it is not often they are expelled whole. What surprised me very much was the quantity of fluid discharged from the uterus at one time; it amounted frequently to a quart, and without the appearance of any membranes with it. It was perfectly colorless and inodorous, its specific gravity ·1012, and contained no albumen. I made an examination of the uterus once during the attack; it gave no pain. The neck of the uterus was considerably elongated and very firm to the touch. I may as well mention that she has had repeated offers of marriage, and invariably refused on account of this disease. Her mind is well cultivated and trained, and is buoyed up with the hope that she will get rid of the annoyance when the menses cease."

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* See Essay on the Vesicular Mole, &c. or Edin. Med. and Surg. Journal, vol. xxxiv. p. 382.

† Dict. de Med. and de Chir. prat. art. Grossesse.

‡ Signs of Pregnancy, p. 264, 2nd edition.

§ Med. Times and Gaz. Feb. 26, 1853, p. 210.

‖ Lancet, Feb. 1, 1840.

Our judgment therefore must be somewhat modified: there may be a form of hydatids not the result of impregnation, but in the majority of cases it is probable that moles, properly so called, whether blighted conceptions, fleshy moles, or hydatids, are truly consequent upon sexual intercourse and impregnation; but in the practical application of this judgment to forensic medicine, we must not forget that this does not imply criminality or impropriety in every case; as, for instance, a widow may have conceived during the life-time of her husband, and the death of the embryo not having been followed by the expulsion of the ovum, it may remain in utero until after the death of the husband, and then be discharged, without the slightest suspicion attaching itself to her conduct.

271. The next question as to the pathology of these moles is, How is their transformation effected? The answers to this question are not quite satisfactory. With regard to the two first species, in which we meet with coagula of blood from a rupture of some of the vessels of the ovum, and with false membranes and lymph, the result probably of inflammatory action; we can easily suppose these products to undergo

a species of organization, assimilating them to the parts with which they are in contact, and adding to the bulk and deformity of the whole: the amount of this change will vary according to the extent of the operation of the cause. As to vesicular moles, there have been several theories to explain their nature and origin. Some have considered them to be acephalocysts, endowed with a very low degree of vitality, but an independent existence. Others regard them as a peculiar disease of the amnion. But certainly the most plausible theory is founded on the fact, that if the flocculi of the chorion be examined closely, there will be found minute nodules or swellings upon them. These are observed to enlarge in size, to become transparent, and to contain fluid, under certain circumstances; in short, to form true hydatids. That all probability is in favor of this view, any one may satisfy himself who will take the trouble to examine minutely the development of the vesicles upon an ovum; he may there trace their gradual increase, from these very nodules up to the fully formed hydatid.

Dr. Barnes has published a very able dissertation on this subject, to which I would beg to refer the reader.*

272. *Symptoms.*—For the first few months, the symptoms exactly resemble those of pregnancy. The menses are suppressed, the abdomen enlarges, the uterine tumor is distinctly felt, the breasts increase, the areolæ darken, and a thin milky or serous fluid is secreted. Salivation also occurs now and then, and morning sickness. But, on the other hand, certain signs are totally wanting. There are no fœtal movements, no pulsation of the fœtal heart, and no '*ballottement.*' I have heard, however, the uterine souffle very distinctly, although I cannot say whether it is present in all cases. M. Vannoni believes that he has noticed a double intonation, one rough and the other smooth; in the uterine souffle, and in ordinary pregnancy the soft sound predominates, but when the child is dead (or absent, as in moles), he conceives the two are of equal intensity and duration.† Pressure upon the tumor occasionally gives pain, and there is generally a serous or sanguineous discharge from the vagina.‡ Cases are related by Hildanus and Thuillier, of moles complicating pregnancy, and in such a case the presence of the mole will not be suspected. Generally speaking, the health of the patient does not suffer much disturbance, nor does the mechanical inconvenience exceed that caused by pregnancy. At a period which is quite uncertain, the womb makes an effort to expel its contents, and the phenomena of abortion or ordinary labor occur; there is the preliminary mucous discharge from the vagina, and labor pains, with more or less hemorrhage, and after a

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* Brit. and For. Med. Chir. Rev. Jan. 1855.

† Revue Med. Chirurg. Dec. 1848.

‡ Puzos: Traite d'Accouchemens, p. 211.

certain time the mole is expelled. The examination, *per vaginam*, (which ought to be made, at the latest, when the flooding commences), will give rise to some suspicion, if the supposed pregnancy be far advanced; as instead of the head, breech, or extremity, a soft mass will be felt at the os uteri, which can hardly be mistaken for the membranes. The *fleshy mole* will not be distinguished from an early abortion, until it be examined minutely. If it be (as it sometimes is) decidedly adherent to the uterus, the case may be more serious, because the flooding will not cease until the uterus be emptied. In some cases, milk is regularly secreted after the evacuation of the hydatids; in others a smart fever follows, with pain in the hypogastrium, requiring laxatives and fomentations. The age at which these morbid growths generally occur, varies from the entrance upon the full performance of the sexual functions to the cessation of menstruation. If moles be discharged after that period, we may be assured that they were generated previously.

The phenomena revealed by an internal examination are similar to those in pregnancy (except the '*ballottement*'), the cervix uteri is diminished in length, and the body is enlarged.

273. *Diagnosis.*—1. I have already stated that this disease simulates *pregnancy* very closely; but there will be found certain discrepancies, such as the duration of the abdominal swelling beyond the term of utero-gestation; the disproportion between the size of the tumor and the period since it was first observed; which, together with the absence of quickening, of the '*ballottement*,' and of the stethescopic phenomena of the fœtal heart, will in most cases enable us to decide as to the nature of the enlargement. Other indications have been attempted to be drawn from the state of the abdomen and of the breasts; but, according to writers of equal authority, they are of little worth.

There are two observations, however, which may be mentioned. Manning* says that the health of the female is liable to greater disorder than in pregnancy; and Nauche,† that the occasional hemorrhage is an important diagnostic sign. Sir C. M. Clarke lays great stress upon the occasional irregular discharge of a colorless, inodorous, aqueous fluid, owing to the bursting of an hydatid; and certainly the occurrence of a sanguineous or serous discharge occasionally, if the placental souffle be not situated low down in the uterus, is very significant, and if any single hydatid, as is not very uncommon, should have been expelled, will render the diagnosis still less doubtful.

In some instances, it is not until after delivery that the difference is detected, and this, at all events, will happen where a mole and pregnancy co-exist.

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* Diseases of Women, p. 339.

† Mal. prop. aux Femmes, vol. i. p. 203.

2. It may be distinguished from *physometra*, by the absence of resonance, and by the greater weight of the abdomen.

3. From *hydrometra*. The diagnosis is more difficult; but in hydrometra the fluctuation is more perceptible, and the accumulation greater; the symptoms arising from distention are consequently more marked.

274. *Treatment.*—The detection of the disease will only add to our watchfulness; for unless there be flooding, it would be by no means wise to interpose until the uterine effort commence. If there be repeated hemorrhages to any great amount, they may be arrested by plugging the vagina, and applying cloths dipped in cold water to the vulva. Should this be deemed too temporising, the ergot of rye may be given in scruple doses; if it fail, the question of manual interference must be decided by the size of the uterine distension and the condition of the os uteri; if that be equal to pregnancy at seven months, the hand may be introduced, and the mole brought away; but if under that size, we run a great risk of doing more mischief by being meddlesome, than would result if the patient were left alone.

If hemorrhage should not occur during the formation of these growths, it probably will, to a considerable extent, when the uterine contractions attempt to expel them, and then the case must be treated as flooding before delivery, viz. the hand must be introduced to detach the fleshy mole, or to scoop out the hydatids.

Subsequently a binder must be applied, and the patient managed as after ordinary labor, but special reference to the flooding.

CHAPTER XIV.

CONGESTION, INFLAMMATION, EROSION, AND ULCERATION OF THE CERVIX UTERI.

275. I. *Congestion of the cervix uteri.*[*]—We might anticipate that the lower portion of the uterus, the cervix, would be especially liable to irritation and a certain amount of inflammation, on account both of its peculiarity of structure and its situation.

And, accordingly, we find that it is one of the most common diseases to which women are subject. Many of the cases of leucorrhœa proceed from this cause, rather than from uterine catarrh; and cases of dysmenorrhœa and displacement are traceable to this special cause. Congestion, inflammation, and erosion of the cervix uteri may occur in unmarried women and virgins, as Dr. Bennet has shewn, but much more frequently in married women, whether they conceive or not: indeed it is one cause of sterility, as I have repeatedly found. The disease also occurs in pregnant women, and in elderly females, but certainly not so frequently. The profession is indebted for much information on this subject to the writings of Drs. Bennet,* and Evory Kennedy,† Mr. Whitehead,‡ MM. Boys de Loury, and Costilhes, &c.

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[*] It is not my intention to enter into the controversy which has been carried on with so much virulence upon this subject. If the reader will consult West's Croonian Lectures, and his work on Diseases of Women, and also Dr. Bennet's recent work on Uterine Pathology, he will be aware of what may be said on both sides.

276. *Causes.*—Cold, especially during or shortly after a menstrual period, at which time, as we know, the uterus is unusually congested, is the most frequent cause in unmarried women, and a very frequent one in those who are married; but the latter are exposed to irritation from sexual intercourse, pregnancy, child-bearing, &c. It is stated to be very common among those who indulge in excessive coition, as for example, in prostitutes. The use of irritating injections, the introduction of foreign bodies, nay the presence of adventitious growths, as polypi, may give rise to it.

277. *Symptoms.*—In many cases the symptoms are very slight for a considerable time; occasional aching in the back, and some mucous discharge.

In other cases, the pain in the back and region of the ovaries is very severe, accompanied with a sense of dragging, and extending down the thighs; and increased by standing or walking. I have also noticed in several cases, a peculiar pain in three different localities, viz. in the symphysis pubis, at the point of the coccyx, and along the sciatic nerve to the knee, which I should hardly have attributed to the congestion and erosion, had it not been removed by curing the latter. There is a general sense of lassitude and weakness, and occasionally a feeling of weight in the pelvis, and a sense of bearing down. In almost all cases the patient suffers from leucorrhœa, more or less profuse. Sometimes the discharge is white like milk, in others thicker and sizy, and in a few I have seen it colored and offensive. At first the patient's health is scarcely affected, but by degrees the appetite declines, the bowels become irregular, distant and irregular pains are experienced, and the patient gradually falling into delicate health, may, indeed, thus become liable to more serious disease.

The menstrual function seldom remains long intact; sometimes it is more profuse, but in general it diminishes by degrees, often appearing to be supplanted by the leucorrhœa, but in other cases unconnected with any supplementary discharge. The color becomes lighter, the quantity less, and the duration shorter. Now and then I have observed an occasional attack of hemorrhage, or the prolongation of the menstrual discharge from one period to another. Dr. Bennet mentions that the pain of menstruation is increased in these cases, and that it is most severe during the first day or two. "Unlike the ordinary menstrual pain," he observes, "it often persists with great severity during the entire period, and for some time after; occasionally it is most agonizing and continued, so much so as to confine the patient to her bed, and to render sleep impossible for several days and nights. It is then nearly always accompanied by nausea and sickness, and by some degree of general febrile reaction. The pains are of the same nature as those experienced during the menstrual interval, lumbo-sacral, ovarian, and hypogastric. The dorsal, uterine, and ovarian pains are, generally speaking, alike intense. They are constant, but diversified by occasional uterine tormina. The entire lower abdominal region is painful in these extreme cases, and often so sensitive as scarcely to bear the pressure of the bed clothes. Even then, however, the sensibility is greatest in the ovarian regions."* In short, as we have already seen, congestion and ulceration may give rise to dysmenorrhœa.

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* On inflammation of the Uterus, &c. 2nd edition, p. 86.

† Dublin Journal, vol. iii. new series, p. 56.

‡ On Abortion and Sterility.

278. As we might expect, pregnancy rarely takes place, at least in those cases where the menstrual function has been much deranged; or if it do occur, the existence of erosion and ulceration will often occasion abortion.† Sexual desire is enfeebled in most cases, and quite destroyed in many; intercourse being often very painful, and always occasioning increased irritation.

Another most distressing symptom, which occasionally accompanies this disease, is pruritus vulvæ. On an examination we detect neither inflammation, nor papulæ, nor false membrane of this part, and it requires further investigation before we arrive at the true cause, viz.: inflammation or erosion of the cervix uteri.

When the uterine irritation is great, it is not uncommon to find the rectum and bladder affected, either from reflex irritation, or from an actual extension of inflammation, although the latter I believe to be very rare.

279. The variety of these symptoms and their intensity will be more or less modified according to the local lesion, and the latter we can only ascertain by an internal examination. Some of these lesions may be ascertained incompletely by the finger alone, others only by the speculum, and all much more satisfactorily and perfectly by it.

The simplest form, or the first stage of the disease, is *congestion*. To the finger the cervix feels larger than usual, softer, spongy, and slightly depressed, with a degree of tenderness on pressure. By the speculum we may see that it is swollen, of a deeper red color than natural, and often having a bruised appearance. In many cases the os uteri is more patulous than natural, and the discharge is thicker and more opaque than it ought to be.

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* On Inflammation and Ulceration of the Uterus, p. 127, 2nd edit.

† Whitehead on Abortion and Sterility, p. 306.

The symptoms are milder than in other cases; and yet I have seen severe dysmenorrhœa the consequence of it, with pain in the back, leucorrhœa, distress on walking, impaired general health, headache, pain in the left side, &c.

280. II. *Inflammation of the cervix.* When the mucous surface is inflamed, it loses its unctuous feel, and at the same time the cervix is enlarged, but soft, unless the inflammation involve the deeper structures; in the latter case it is more or less swollen and indurated, and being increased in weight, it is depressed. Dr. Bennet states that it is also generally retroverted in married females, but this I have not found to be the case. "When the inflamed cervix is brought into view by the speculum, its surface is found to offer a vivid red tinge, instead of the pale rosy color of health. It may present a uniform red hue, and be dotted with florid papulæ, or with white pustules consisting of mucous glands, hypertrophied, or distended with muco-pus; or it may offer any of the shades between the bright red of arterial blood and the livid tinge of venous blood, according to the state of the constitution. On the inflamed surface we find a certain amount of muco-pus, which requires to be wiped off before the state of the mucous membrane can be clearly ascertained."* Dr. Bennet attaches great importance to the presence of muco-pus, as it is not produced by mere congestion, and is evidence in itself of inflammation.

It must always be remembered, that although the inflamed cervix is the only part we can see, yet the inflammation may extend through the cervix to the mucous membrane lining the uterus, and in all such cases the os uteri and canal of the cervix will be found more patent than usual, and to this Dr. Bennet attributes great value as a pathognomonic symptom. "Whenever," he says, "the finger, instead of passing over a scarcely perceptible orifice, meets with a well marked depression, into which its extremity may be inserted to a greater or less extent, we may nearly conclude at once that inflammation, with or without ulceration, is present, and it becomes advisable to pursue the investigation further," &c. In like manner the canal of the cervix and os uteri internum are rendered more open by inflammation, though it is not easy to explain the process. "The mucous membrane that lines the cavity of the cervix, when inflamed, presents a dark livid red hue, which may be traced with the eye to a considerable depth, by depressing with a sound the lower lip of the os. This surface bleeds easily on being touched with a probe, especially if excoriated or ulcerated, which is not the case in the healthy condition." "The inflamed mucous membrane of the cervical canal also secretes muco-pus in more or less abundance, and this muco-pus filling up the cavity, can often with difficulty be wiped away. I generally use for that purpose a small piece of cotton inserted into the cleft of the fluid caustic holder, which may be passed into the cavity of the cervix, owing to its dilated state, and with which the mucus may be removed. Even when there is no pus present, the cavity of the cervix is often completely filled with glairy transparent mucus, evidently secreted by the mucous follicles of the inflamed lining membrane. This glairy mucus which may be compared to the uncooked white of an egg, has much attracted the attention of writers on female discharges, and is considered to be secreted by the uterine organs generally as the result of debility, whereas, in reality it is secreted by the cavity of the cervix, and is nearly always the concomitant of inflammation. It is sometimes produced in very great abundance, and seems to take one of the principal forms of the vaginal discharge commonly called whites. The presence of great quantities of this glairy mucus, along with an open state of the os uteri, may be considered as pathognomonic of inflammation of the cavity of the cervix."*

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* Dr. Bennet on Inflammation and Ulceration of the Uterus, p. 97.

The symptoms also will in general be better marked than in simple congestion, the pain in the back is more acute and more constant, and is increased by sexual intercourse: the menstrual discharge is often modified in quantity, and rendered more painful, and the general health suffers more in a shorter time.

281. III. *Granular inflammation of the cervix uteri.* For the earlier notice of this form of disease we are indebted to Boivin and Dugès,† Duparcque‡ and Lisfranc,§ and since their writings it has probably been noticed by all who have much practice in diseases of women.

These granulations, which may be seen on the labia of the cervix uteri, and on its external surface, may be the result of acute or chronic inflammation. In the *former* the granulations are occasionally few in number, about the size of peas, sub-pediculated, firm, and whitish; more frequently they are of the size of mustard seeds, whitish but soft, as if vesicular, in great numbers, and without a pedicle. The

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* Bennet on Inflammation and Ulceration of the Uterus, p. 101.

† Diseases of the Uterus, &c. Heming's Trans. p. 373.

‡ Traite Theorique et Prat. sur les Alterat. Organiques de la Matrice, &c. p. 84.

§ Mal. de l'Uterus, p. 334.

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for a long time; sooner or later, however, superficial ulceration takes place around the os uteri, or on some portion of the cervix; but we find it commence more frequently in the former situation, and extend in different directions, so as to assume different forms. Dr. Bennet remarks that, "when an abrasion or excoriation only is present, the cervix is generally of a vivid red, and the granulations are often so minute, that it is at first difficult to ascertain whether the membrane is abraded or merely congested, or to perceive the limits of the ulceration when once it has been ascertained to exist. The doubt, however, may be solved by lightly touching the suspected surface with nitrate of silver. The abrasion immediately assumes a much whiter hue than the region which is merely congested, and its margin becomes well defined and evident. An abraded or excoriated condition of the mucous surface is generally the form under which ulceration presents itself in the cavity of the cervix, granulations of any size being very seldom met with in this region. In virgins also, ulceration often presents this character, especially when it is limited to the contour and cavity of the os."*

283. In addition to the simple form, when the mucous membrane only is eroded, and the surface is smooth, with but slight congestion or induration, Dr. Evory Kennedy has noticed several varieties. "The granular ulcer," like the simpler affections, "may commence on the lip, or may extend from within; it may occur on one spot of the os, or spread over both lips. It frequently would appear to extend from within the os, and is thus very commonly found combined with the same state of disease in the mucous membrane of the uterus itself. The granulations in this are redder and more distinct than in the former case, and almost always combined with increased development of the lip or lips engaged, and often with symptoms either of congestion or chronic inflammation of this part. When this affection extends upwards into the lining membrane of the uterus, a muco-purulent discharge exudes as well from the uterus as the ulcerated surfaces exposed to view. These surfaces would not account for the amount of discharge which very often accompanies this affection, and which evidently comes also from the upper part of the vaginal canal, which is usually of a dusky brick color, with occasional papillæ."† Another variety Dr. E. Kennedy has termed the "cockscomb granulation." "It generally engages the immediate margin of the os, consisting of larger, sprouting, papillous granulations, with or without intervening fissures dividing them into lobulated portions; the lobes, when present appearing to dip a good way into the cavity of the uterus."‡ "There is another form of ulcer-

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* Op. citat. p. 102.

† Dublin Journal, vol. iii. p. 71.

‡ Ibid., p. 72.

ation which resembles that now described, but is less sprouting in its granulations. It assumes, like that, a vivid red tint generally, engages one or both lips of the os, close to the aperture, although not necessarily found here, and occasionally extends completely into the neck, engaging the entire of both lips: it is generally in its advanced stage very lobular and fissured in its character, although not necessarily so at first, or when at some distance from the os: it is what might be called 'doughy' or 'boggy' in its structure, the caustic or sound sinking very deeply into it without any resistance being offered, and its bleeding very freely on the slightest touch: it is commonly attended with irregular red discharges, appearing at intervals, and particularly after intercourse: this occasionally amounts to debilitating hemorrhage, with discharge of clots, &c."* Many more varieties might be added, if it were of any use; but the chief and most important points in all are, that there is inflammation and erosion of the mucous membrane, with or without granulations. Much more important is it practically to remember, in treating a case, that the same disease to which we are applying remedies, may extend into the cervical canal, and that we are not to assume the case to be cured merely because the external erosion has healed.

284. Dr. Tyler Smith has given the following description as the result of his microscopical investigations: "The epithelium of the external portion of the os and cervix uteri, and of the upper portion of the vagina may be partially or entirely removed; or there may be morbid patches in which the epithelium is here and there wanting. When, in analogous states, the epithelium has been removed in the living subject by diseased conditions, the mucous surface is of an intensely red color from the presence of the naked villi with their vascular loops, and it conveys an impression of roughness and denudation upon examination by the speculum. To the touch the abraded surface feels erectile and 'velvety,' a term which has been very commonly applied to what has been considered ulceration of the cervix and os utero. The villi do indeed in this condition stand out somewhat like the pile of velvet, and in some cases the villi themselves are considerably enlarged. In other cases there is not merely the loss of the dense epithelium, but the villi both of the external surface of the os uteri, and of the mucous surface within the labia uteri are destroyed in patches. In that condition of the os uteri in which, upon examination after death, would be pronounced to be undoubted superficial ulceration, the state which generally obtains is partial or entire loss of the epithelial layer in circumscribed patches, and here and there the loss or partial destruction of the villi. This gives an eaten, corroded appearance to the mucous surface. Such a condition of the os may be limited in extent, or it may spread over the whole of the os and external cervix and pass

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* Dublin Journal, vol. iii. p. 74.

within the labia uteri. Sometimes small circumscribed ulcers are seen, in which the denuded or partially denuded villi are found surrounding the edge of the small ulcer, the area of the ulcer itself being bare of villi, or the ragged debris of villi and their vascular loops appearing at the bottom of the ulcer. These little ulcers appear commonly in eruptive disorders of the os uteri; but they represent perfectly the loss of epithelium and villi, and to a more complete extent than is found in diffused patches of diseased surface."*

The tissue underneath these superficial ulcers seems to be thickened especially at their edges, as we may discern by the touch. They are common at all ages, but particularly after marriage, and are often a cause of sterility. If they occur after conception, or if conception take place in spite of them; abortion not unfrequently occurs, as I have found, and as has been shown by Mr. Whitehead and Dr. Bennet. They are also found in most cases of polypus uteri, at that part which was in contact with the stalk or body of the polypus. This has been pointed out both by Dr. Montgomery,† Dr. Bennet, and Dr. E. Kennedy. Upon the whole, in one form or other, I should say that few diseases of the uterus are more frequent: many obstinate cases of leucorrhœa, which have resisted the usual treatment, I have found upon internal examination to be really cases of erosion of the cervix.

The symptoms in some cases are very slight, so that it is with difficulty the patient can be persuaded that the womb is in fault; in some instances they are so distant, that it is scarcely to be supposed that they arise from a lesion of this organ; but in other cases we find all the distressing symptoms I have already enumerated, and the broken health, clearly traceable to their local cause.

285. V. *Ulceration of the cervix uteri.*‡ The ulceration which results from the inflammation may, however, do more than merely remove the epithelium or mucous membrane; it may dip into the substance of the cervix itself, assuming various forms, and taking various directions around the os uteri, or the half of it, or forming a groove in its substance. The depth may vary from a few lines to a quarter or half an inch. I have seen a great portion of the cervix thus destroyed. The edges are clear cut, neither elevated nor hard, and the surface of the ulcer has a granulated healthy look, generally covered more or less by purulent matter; or the granulations may be more abundant, firm, of a vivid red hue, scarcely bleeding on pressure: or they may be large, fungous, livid, and bleeding profusely at the

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* Med. Chirurg. Trans. vol. xxxv. p. 393.

† Dublin Journal, Aug. 1846.

‡ Burns' Midwifery, p. 106. Astruc: Diseases of Females, vol. ii. p. 77. Clarke: Diseases of Females, vol. ii. p. 185. Boivin and Dugès: Diseases of the Uterus, p. 366.

slightest touch. These fungous ulcerations are generally connected with torpor of the local circulations. When they are present, the congestion of the vagina and cervix is often very great, of a livid venous character, and the non-ulcerated surface of the cervix may present dilated varicose veins.* After describing 'Corroding Ulcer,' Mr. Burns observes, "There is another kind of ulcer which attacks the cervix and os uteri. It is hollow, glossy, and smooth, with hard margins, and the cervix a little beyond it is indurated and somewhat enlarged, but the rest of the uterus is healthy. The discharge is serous, or somewhat purulent. The pain is pretty constant; and the progress is generally slow, though it ultimately proves fatal by hectic. In this and all other diseases of the uterus, the morbid irritation generally excites leucorrhœa in a greater or less degree; but examination ascertains the morbid condition of the part."

In this variety there is generally marked local pain, not merely in the back, but in the centre of the pelvis, from whence it radiates. It is sometimes a stinging pain, sometimes a sense of burning, and occasionally there are rigors. The pain often amounts to agony during coition, or during a menstrual period. There is more or less leucorrhœa, and sometimes a tolerably profuse discharge of blood. I regard this variety as far more serious than the others, and am by no means sure that it may not prove fatal if neglected, which the others will scarcely do, except by preparing the way for other diseases. Dr. Lee has doubted the existence of simple ulceration, (not erosion) which is neither scrofulous nor syphilitic; but so far as individual experience is of any value, I can assert that I have met with several such cases, although I do not think them as common as has been stated.

286. VI. *Hypertrophy and induration of the cervix.* I shall now notice two consequences of the previous states, which are so closely connected with these cases, that they generally require to be included in our curative efforts. Dr. Bennet, in his valuable work, from which I have quoted so largely, says truly that "inflammatory ulceration of the cervix is generally followed in the course of time by important changes in the structure, size, and form of the organ. One of the first effects of the disease is, as we have seen, to produce congestion and swelling of the central structure of the uterine neck; the cervix becoming larger, but at the same time remaining soft and elastic. This state may long continue without any other change taking place. I have repeatedly found the cervix enlarged, swollen, and congested, but perfectly soft, after years of disease, especially when the disease has been limited to the cavity of the cervix, or to the immediate vicinity of the os. Generally speaking, however, this is not the case.

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* Bennet on Inflammation and Ulceration of the Uterus, p. 103.

† Midwifery, p. 105.

The central tissues are not only congested, but inflamed; effusion of plastic lymph takes place in their structure, and becomes more and more organized. Thus the cervix is not only enlarged but indurated. At first the central induration is evidently of an active inflammatory nature, as indicated by the increased heat of the organ, the vivid redness, and sometimes the pain on pressure. If the disease is not subdued, in the course of time these symptoms of inflammatory action partially subside, and the cervix becomes the seat of mere chronic hypertrophy, the inflammatory origin of which is scarcely discoverable. The extent to which inflammatory hypertrophy of the cervix may be carried is perfectly surprising; the size of the uterine neck thus affected varying from that of a small walnut to that of a man's fist."

As we might have anticipated, this enlargement is least in virgins, and in those who have not borne children: the nearer a woman is to the period when she has borne a child or miscarried, the larger the cervix becomes when attacked by inflammation. Generally speaking, the cervix only is affected; but in some rare cases the enlargement extends to the lower portion of the body of the uterus. This induration and hypertrophy in its turn becomes a cause of irritation, giving rise apparently to inflammation and superficial ulceration. Either or both lips may be thus hypertrophied; in the former case the lip will project over, and hide the os uteri, which will be found at some distance behind or above the lip, according as the posterior or anterior lip is affected; and in the latter case, the os, instead of being a circular opening, will assume the form of a transverse fissure. "The indurated cervix is not unfrequently divided into separate lobes. The presence of these lobes is an evidence of antecedent laceration of the cervix during an abortion, difficult or instrumental labor, or even sometimes during a natural labor. The lacerated surface not healing, the ulceration in course of time is followed by hypertrophy of the segments into which the cervix is divided. These segments sometimes assume a stony hardness, and their existence generally leads to the supposition that the patient is laboring under carcinoma. I have met with several cases of this description, in which the disease had been erroneously pronounced to be cancerous by high authorities. There is, however, an easy means of establishing a diagnosis, which, simple as it is, has not yet been pointed out. When the lobular, knotty, irregular condition of the cervix is the result of laceration, and is simply inflammatory, the fissures which separate the lobes radiate round the cavity of the os as a centre,—which is not the case in a cancerous tumor—each separate lobe being perfectly smooth in itself, and free from tubercles or superficial inequalities."*

The inconvenience of an enlarged cervix will depend a good deal upon its size; it keeps up a permanent irritation, and, if large, gives a feeling of weight in the pelvis, and bearing down, very much resembling a certain amount of procidentia uteri.

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* Bennet on Inflammation and Ulceration, &c. p. 112.

287. VII. *Displacements of the cervix.*—Another, but a mechanical effect of these changes of volume and weight, is to alter the relative situation of parts. The most general displacement is a certain degree of depression, amounting in extreme cases to prolapse, especially when the patient is standing. This seldom occurs in those who have not had children, but in those who have, the cervix may descend to the vulva, or even appear externally, with all the distressing symptoms of prolapsus uteri. Again, when the cervix uteri is brought lower than usual, Dr. Bennet finds that it is frequently directed backward, so as to press on the posterior parietes of the vagina, and on the rectum, whilst the body of the uterus may or may not be curved forward. This change of position, which constitutes retroversion of the neck of the uterus, is so commonly met with in married females suffering from inflammatory induration, as to constitute nearly the rule. With them it is evidently the result of intercourse. In the healthy state, the cervix is soft and small, and yields to pressure; but when it is enlarged and indurated, it must necessarily offer resistance, and consequently be thrust backward, and lodged in the cavity of the sacrum. The constant recurrence of this physical cause of displacement in these cases, eventually renders the retroversion of the cervix permanent. The hypertrophied cervix is sometimes directed anteriorly, or anteverted; it then lies behind the pubis, more or less high according to the anteversion. When this is the case, it is always owing to some enlargement of the body of the uterus, which causes the uterus to fall back into the cavity of the sacrum, and thus throws up the cervix. The hypertrophied cervix occasionally lies diagonally in the pelvic cavity, to the left or to the right; so that the finger passed into the pelvis, per vaginam, in a straight line towards the sacrum, misses it entirely, leaving it on one side.

I confess that I have not found these displacements either so well marked, regular, or of so much consequence as others have stated. The unusual depression is the one to which the distress is usually referable.

288. So much for the varieties of the local disease and its effects; let us add a few words now as to the modifications occasioned by its occurrence in virgins, married women or elderly persons.

1. The symptoms do not differ much in *virgins* from those already mentioned, the most marked difference being the production of dysmenorrhœa. Pain accompanies menstruation, which it did not do previously; or, if it did, it is much increased when erosion occurs. Leucorrhœa and great debility are additional characteristics.

2. In *pregnant* women the general symptoms present the usual characters, but of course, from the changes which have taken place in

the uterus, the results of an examination by the touch and the speculum are different, inasmuch as the cervix is more or less expanded. The lips will be found congested, swollen, and more or less eroded or ulcerated, with a greater or less exuberance of granulations. Dr. Bennet observes, "This great development of the granulations, the luxuriant fungosity of the elevated surface, is so marked in some cases, and so seldom observed in the non-pregnant state, that when it is found, it may be said in itself to constitute a symptom of pregnancy."

When induration has previously existed, it begins to soften about the third month, and disappears with the complete expansion of the cervix.

The general symptoms are very distressing, and the health suffers much. Pain in the back, irregular pains, nausea, loss of appetite and rest very commonly occur, and the patient becomes pale and thin, subject to functional disorders of the stomach and bowels, with headache, &c.

3. In *elderly* women the disease is not very common, owing probably to the diminished vascularity of the cervix, but still it does occur, and this is Dr. Bennet's description of it: "On examining digitally and instrumentally, the cervix is found small, indurated, sometimes lobular; but in that case the lobules are regular, and their divisions radiate towards the centre; the os is slightly open, and presents sometimes, but not always, within its contour, the velvety sensation of ulceration. The vagina is in some cases rather rosy and congested, whilst in others it presents a blanched appearance, peculiar to it in advanced life. To the eye, the cervix appears of a vivid red hue, and the ulcerated surface generally seems irritable and angry; the granulations are small; and there is scarcely ever any appearance of luxuriance, or of fungosity about them. The cavity of the cervix is closed at a short distance from its external orifice." There is considerable disorder of the general health, and the pain in the back is very troublesome: they are moreover very intractable.

289. *Diagnosis.*—1. By the symptoms alone, it will often be very difficult to distinguish between erosion and *uterine catarrh;* but I have generally found that when cases of the latter kind, as I supposed, proved unusually intractable, it was owing to congestion and erosion of the cervix. Obstinacy to ordinary treatment, therefore, should lead to, as it fairly justifies, an internal examination, and the use of the speculum will leave no doubt as to the nature of the disease.

The inflammation, erosion, granulation, or pustulation of the cervix, are quite characteristic, and not to be confounded with any other disease of these parts. It may be doubted, however, in some cases, whether they are of a simple or venereal character, as they have been enumerated as occuring in women affected with syphilis. I may as well confess at once, that excepting true Hunterian chancre of the cervix, which is extremely rare, I do not know any affection of this part which *per se* is conclusive evidence of its syphilitic origin. In all cases we must be decided either by the history of the case or some concurrent symptom.

2. From *corroding ulcer*. In simple ulceration the depth and extent of the ulcer are limited, hemorrhages are rare, the discharge is almost always inodorous, and the constitutional symptoms are not severe; whereas in corroding ulcer, a great part of the uterus is destroyed, alarming hemorrhages occur, the discharge is fœtid, often acrid, and the patient's constitution is destroyed by hectic fever.

3. From *cancer uteri*. There is no morbid deposition into the uterus or surrounding parts in simple ulceration, and consequently the uterus is movable; the discharge is bland, in cancer it is acrid and offensive; the pain is dull, in cancer it is acute; and lastly, there is seldom hemorrhage.

4. Cases of hypertrophy with induration may be mistaken for *prolapsus uteri*, if the enlargement be excessive; but a careful examination will show, that although the uterus is lower than usual, the most dependent part is really the cervix.

5. The same cases may have been mistaken for *carcinoma*, but Dr. Bennet has given a very simple guide for our diagnosis. The fissures radiate from the os uteri as a centre, which they do not in carcinoma. I may add, that in carcinoma deposition into the neighbouring tissues takes place, often even before ulceration sets in. In hypertrophy there is no deposition into the surrounding tissues.

290. *Treatment.*—The stage of the disease must determine the remedies to be employed. If we are fortunate enough to see the patient during the inflammatory stage, we may hope by active measures to anticipate the erosion. A fair quantity of blood may be taken from the loins by cupping, from the cervix by scarification, or leeches may be applied to the vulva, or (by means of the speculum) to the cervix uteri. Great benefit is frequently derived from this latter mode of local blood-letting. This should be followed by hip-baths and emollient vaginal injections, by which means, aided by mild laxatives, we may hope to lessen the tenderness and swelling of the cervix; and when this is done, counter-irritation may be produced by blisters, &c. to the sacrum.

If erosion have set in, we may find it necessary to throw up a few emollient vaginal injections, before proceeding more actively to work.

Then we may try astringent injections, especially if the erosion be very superficial. Astringent ointments have been applied to the diseased part directly by means of the speculum. Picard cured some simple cases by thus using the ung. plumb. acet. and some syphilitic ones with the ung. hydrarg.

If the disease have made some progress, or if it resist milder remedies, it will be necessary to cauterize the ulcerated surface. This can be done either by fluid injections into the vagina, or directly by means of the speculum. There is one disadvantage attending the former, viz.

that the caustic is applied where it is not needed; and if it be of great strength, inconvenience may result: this is avoided by using the speculum, with the additional advange of being able to use either solid or fluid caustics, and to apply them exactly to the points which most need them. Jobert and Marjolin have been very successful in their management of these cases; they apply the pernitrate of mercury to the ulcer by means of a camel-hair pencil, and repeat it as often as may be necessary. At present, however, M. Jobert uses the actual cautery (at a white heat) for the cure of even simple ulceration of the cervix, as well as for the cure of hypertrophy and induration.

M. Lisfranc has stated the following circumstances as forbidding the application of caustic. 1. He defers it if there be much "*engorgement*" of the uterus. 2. If there be inflammation of the vagina or of the cervix uteri, or even if the patient suffer severe pain. 3. The caustic is not to be applied within four or five days of the appearance of the menses, nor for three or four days afterwards. The caustic is applied by means of the speculum carefully introduced, the cervix being first cleansed from mucus by means of a camel-hair pencil. M. Lisfranc prefers the protonitrate of mercury, as a caustic, to all other. It has succeeded much better in his hands than the nitrate of silver.* Dr. Cancoin has recommended the chloride of zinc, which possesses, he says, the advantage of forming a dry eschar.†

Dr. Montgomery uses the nitrate of silver, the acid nitrate of mercury, &c. with scarifications, in the cure of hypertrophy.‡

Dr. Bennet uses the nitrate of silver in inflammation without ulceration of the cervix uteri, and when ulceration exists, either the lunar caustic, the acid nitrate of mercury, or the potassa cum calcê: of the latter he speaks in very high terms, and Prof. Simpson's experience seems to corroborate his opinion. Latterly, however, Dr. Bennet has preferred using the potassa fusa, guarding the upper lip of the cervix by a previous application of the nitrate of silver.

Dr. E. Kennedy uses nitrate of silver or copper, acid nitrate of mercury, &c. He describes an instrument by which he considers that he can safely throw injections into the uterus, so as to apply the remedies to the entire extent of the disease.§

Mr. Whitehead recommends local depletion at the commencement, canterization, and internally, soothing and occasionally alterative medicines.‖

I have tried most of the ordinary caustics myself, and generally with benefit. The plan I have found most useful is, after cleansing the cervix, to apply first a strong caustic, either nitric acid, muriatic acid, chlorate of zinc, acid nitrate of mercury, &c. with a small roll of lint, and a pair of dressing forceps, to the erosion, and a little around it. It is well to touch the surface afterwards with a little dry lint, to take away the excess of caustic which might spread to the neighbouring parts. After four or five days, or a week, I then apply the caustic tincture of iodine, and repeat the application once or twice a-week until the erosion or ulcer is healed. If the granulations are exuberant, the stronger caustic must be applied again, but I have constantly found the iodine sufficient. I very much prefer it to the nitrate of silver, as, in addition to its caustic effects, I think it exerts its peculiar power upon the enlarged cervix. I have succeeded, in congestion of the cervix without erosion, better by its use than by any other means. An occasional blister to the sacrum will greatly assist the action of these remedies. After curing the external erosion or ulceration, we must carefully examine, so far as we can, the state of the cervical canal, and if the disease has extended therein, apply the iodine or other preparations to the part by means of long fine pencils of lint.

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* Mal. de l'Uterus, p. 338.
† Ibid. p. 345, note by M. Pauly.
‡ Dublin Journal, vol. ii. p. 45. New series.
§ Ibid. vol. iii. p. 90, new series.
‖ On Abortion and Sterility, p. 309.

291. These remedies, or a modification of them, are applicable to all cases of congestion, inflammation, erosion, or ulceration, but for hypertrophy with induration, it is proposed to produce a deep eschar and slough, either by the actual cautery, Vienna paste, or the potassa fusa. Dr. Bennet prefers the latter, which must be kept in contact with the diseased surface for a short time, so as to give rise to a slough; and he adds an important explanation: "I wish it to be most distinctly understood, that *I do not propose to destroy* the hypertrophied cervix by cauterization, but merely to set up an artificial stimulating inflammation, by means of an eschar or issue of *limited extent*, established in the centre of the hypertrophied region. I do not calculate in the remotest degree on the destruction of tissue, to which the caustic or cautery gives rise, for diminishing the size of the hypertrophied cervix; but solely and entirely on the *inflammation subsequently set up*." I gather, however, from Dr. Simpson's paper, that his intention is to remove all, or the greater portion of the indurated part, by the use of the potassa fusa;* and I cannot but fear, as Dr. Bennet observes, that the inflammatory reaction set up afterwards may in many cases prove injurious.

When applying the caustic potash, Dr. Simpson limits the extent of its action, and guards against the spreading of the caustic to healthy parts, by partially filling the lower internal portion of the speculum with vinegar, and, after the application, syringing the vagina with vinegar and water.

In the case of young women who are not married, or who have had no children, and of elderly women, the foregoing treatment will be very suitable, and require but little modification; but if the patient be pregnant, that is no reason why we should not attempt to cure the disease, but only a motive for choosing the milder applications. M. Eguisier* has recorded several successful cases of this kind, and I could add many more.

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* Edin. Monthly Journal. Ranking's Abstract, vol. vi. p. 161.

CHAPTER XV.

INFLAMMATION OF THE UNIMPREGNATED UTERUS.

292. THIS disease is by no means of frequent occurrence, neither are the symptoms to which it gives rise at all so marked as might be expected.† It may occupy the body of the uterus alone, or the body and cervix; it may be confined to the proper tissue of the uterus alone, or it may involve the lining membrane.‡

It scarcely ever occurs before the age of puberty, and is very rare until after marriage. Dance has related a case where the uterus was extensively inflamed in a child of eight years old.§ Burns states that it occurs about the period of the cessation of the menses.‖

293. *Causes.*—Local contusion is probably the most frequent cause: thus Dr. Waller says that the best marked case he ever saw occurred soon after marriage, and all writers mention this period as peculiarly favorable to its production.¶ In a case which came under my care also, it came on soon after marriage in a patient with an unusually short vagina. Blows externally may give rise to it: cold taken during menstruation by wearing light dresses, or exposure in any other way, by suppressing the secretion, may convert the periodical congestion into active inflammation. It has also been attributed to a long walk or violent exertions during menstruation. Dr. Hyndman mentions a case which followed an attack of amenorrhœa.** In addition, Dr.

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* Journal des Connaiss. Med. Nov. 1839. p. 77.

† Clarke on Diseases of Females, vol. ii. p. 29. Ed. Med. and Surg. Journal, vol. xvii. p. 479.

‡ Nauche: Mal. propres aux Femmes, vol. i. p. 315.

§ Archives Gen. de Med. Oct. 1829.

‖ Midwifery, p. 96.

¶ Cyclop. of Pract. Med. art. Pathology of the Uterus. Duparcque: Traite theorique et pratique, &c. p. 159. Lisfranc: Mal. de l'Uterus, p. 300.

** Amer. Journ. of Med. Ap. 1851.

Lever attributes it to strong astringent injections for the cure of leucorrhœa;* and Dr. Huston saw two cases resulting from the use of ergot in menorrhagia.

294. *Symptoms.*—If the attack be acute it may commence by rigors, succeeded by feverishness; then some heat and uneasiness will be felt in the pelvic region, and occasionally paroxysms of sharp pain in the back, darting through to the symphysis pubis, and down to the groin and thighs. The ordinary dull pain is less severe, but constant, greatly increased by coughing or sneezing, and occasionally accompanied by a sensation of bearing down. If slight pressure be made upon the abdomen, there is no increase of pain, but if deep pressure down towards the brim of the pelvis be made, the suffering is considerable. Under ordinary circumstances, the bony pelvis affords protection to the enlarged and sensitive uterus.

An *internal* examination will reveal an increase of size in the womb, which is often somewhat depressed in the pelvis, and it will identify the tumor in the pelvis with the one in the abdomen. Pain will be experienced on pressing the cervix, particularly at some one point. The os uteri is generally more open than natural, and will be found in the back part of the pelvis. In some cases the menses are not suppressed, or at least for some time, and these patients experience a great aggravation of their sufferings at each monthly period. In others the uterine function is entirely arrested. Occasionally there is a slight mucous discharge.

The constitutional symptoms vary very much: it is seldom that we see much fever; the pulse may be somewhat quicker than usual, but very often it is unaffected. It is sometimes feeble. The state of the skin is generally answerable to the pulse; when this is quick, the skin is hot and dry; and when feeble and slow, the skin is cool. When the fever is marked, the patient sometimes complains of pain above the orbit, dimness of sight, or partial deafness.†

The local irritation, after a while, is propagated to the neighbouring organs; the rectum, vagina, urethra, and bladder, all participate. The fæces and urine are discharged with considerable pain and difficulty.

295. Distant sympathies are also excited; the breasts swell, and become painful.‡ The stomach becomes irritable; nausea, and even vomiting, are not unfrequent; the appetite is diminished; the digestion is impaired; the bowels become constipated; and the general health suffers very much. Sitting up occasionally causes fainting. Burns mentions that retroversion or anteversion may take place; and

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* Pract. Treatise on Diseases of the Uterus.

† Boivin and Duges, Heming's Trans. p. 316.

‡ Nauche: Mal. prop. aux Femmes, vol, i. p. 318. Capuron: Mal. des Femmes, p. 131.

we shall see by-and-by that this is by no means improbable.* Of course, such an occurrence will be marked by the appropriate symptoms. Inflammation of the womb is sometimes, but rarely fatal.

Such are the principal symptoms which have been noticed in the *acute* form of the disease; the *chronic* form differs from it chiefly in the minor intensity of the symptoms. It is often very insidious, giving little evidence of its presence; there may be a dull pain in the lower part of the abdomen, some depression of the uterus, and a mucous discharge. The derangement of the digestive organs (vomiting, loss of appetite, &c.) is generally present, and indeed may lead us to suppose these organs to be the parts primarily affected. Menstruation is more or less disturbed, and, if the disease continue, it will be suppressed. The evacuation of urine and fæces is attended with pain and inconvenience. There is generally very little constitutional suffering; the pulse is soft, scarcely quicker than usual, but easily accelerated.

The duration of this form varies much; it may, however, continue for a long time. In itself it does not prove fatal, though its consequences may be serious.

296. *Terminations.*—It would appear from the testimony of authors, that inflammation of the uterus frequently terminates in resolution. That it does not degenerate into cancer (as formerly supposed) may be considered as decided. There are other pathological conditions, however, which, though rare, deserve notice, as consequent upon inflammation of the organ.

1. *Hypertrophy or induration*, which appears to consist either in a temporary enlargement, probably from afflux of fluids, or in a permanent augmentation of the tissue of the womb itself, which may thus be vastly increased in size. If a section be made, the texture will be found more or less firm, according as the induration is temporary or permanent, and of a reddish or greyish color. The surface is smooth and uniform. This augmentation of volume gives rise to certain mechanical symptoms, owing to its pressure on the bladder and rectum, and to the depression of the uterus. "With this state," says Dr. Hooper, "the whole of the uterus is of a preternatural size, more especially the body of the uterus, without any other morbid or unnatural appearance; and this increase of size is caused by an unusual formation of the healthy structure of the organ. With regard to the extent of this unnatural occurrence, I have found the uterus more than twice the usual size, and this may be considered as the mean or most common size in hypertrophy, but it is sometimes much larger."† He describes hypertrophy with hardness, and hypertrophy with soft-

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* Ed. Med. and Surg. Journal, vol. xviii. p. 520.

† Morbid Anatomy of the Human Uterus, p. 5. See also Duparcque, p. 183, et seq. Lisfranc, pp. 300, 310.

ness, but does not expressly state that either results from inflammation.

297. But the subject would be incomplete unless I introduced two other forms of hypertrophy much more common I think than the previous one. The first is that which arises from repeated congestion. I have seen it most frequently the result of persistent menorrhagia. The uterus, swollen from the unusual afflux of blood, does not recover its natural size during the interval, and each recurrence seems to add something to its bulk. It is unusually heavy, depressed, and fills the cavity of the pelvis more than usual. The symptoms are just what we might expect; weight in the pelvis, bearing down, some mechanical inconvenience, and, perhaps, irritation of the bladder. Occasionally the cervix becomes inflamed and excoriated, and altogether it may form one of the elements in the production of prolapse or retroversion. Counter-irritation, cold injections, and iodine I have found the most useful; but above all, a careful attention to the menstrual discharge and a diminution in its quantity by ergot or indian hemp.

298. The second form is that condition in which the uterus is left when its involution after delivery is arrested by inflammation or any other cause. This condition was first pointed out by Dr. Simpson,* and has received a careful consideration from Dr. West.† If we see the case soon after confinement, there will be no difficulty in recognizing the case by the tumor above the pubis and the uterine sound; but at a much later period, we may erroneously attribute it to recent causes. The symptoms resemble very much those already described; partly mechanical and partly arising from irritation; and the treatment must be the same.

299. 2. *Ramollissement.* That hysteritis may thus terminate is not to be questioned. Dr. Burns‡ says, "sometimes, as a consequence of inflammation, more or less distinctly marked, but occasionally without any very distinct indication of uterine disease, we find part or the whole of the womb softened, and its substance very easily torn. A modification of this 'ramollissement' has been described as affecting the neck rather than the body of the uterus, and converting it into a black fœtid putrilage."

More recently, M. Duparcque has observed, "The autopsy of females who have died of metritis (acute,) shows the tissue of the uterus swollen, reddish-black, softened, friable; the blood with which it is engorged is mixed with a puriform or serous fluid: we find also, here and there, small collections of pus or larger abscesses." . . . . "Lastly, we meet some parts black, '*putrilagineuses*,' and evidently gangrenous." The fœtor spoken of, however, is by no means a necessary or usual accompaniment of 'softening.'

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* Obstetric Works, vol. i. p. 103.

† Diseases of Women, p. 91

‡ Midwifery, p. 97.

300. 3. *Abscess.* Though rare (except in the hysteritis following delivery), yet examples of suppuration of the uterus are on record in the works of Mauriceau, Van Sweiten, La Motte, &c. Mr. Howship has a preparation of a uterus, in the walls of which there is an abscess containing an ounce of pus. The collection may also take place in the cavity, or the purulent matter may escape through the vagina into the rectum, peritoneum, or into the cellular tissue of the pelvis. It generally gives rise to some fever, and its evacuation may be attended with danger and death. Or it may co-exist with closure of the os uteri, and the result be equally fatal.*

301. 4. *Gangrene or sphacelus.* This occurs very rarely, but when it does, it is of course fatal. Astruc says that the gangrene or sphacelus never happens to the uterus or vagina but in one of these cases. "1. In violent inflammations which attack these parts, and then it is generally in the height of the inflammation that the gangrene and sphacelus come on, i. e. from the third or fourth day of the disease to the seventh or eighth. 2. In *descensus* of the uterus, when the part which is fallen to the outside remains a long time in such a state, which can only be that of compression and strangulation. 3. In the phagedenic ulcers, which corrode the internal surface of the uterus or vagina."† The gangrene may affect the whole body of the uterus, but this is rare; it is more generally confined to the neck. In these cases, "The pulse is low, quick, concentrated; the patients are seized with shiverings, startings, and even convulsive shakings of the body, without any apparent cause; and at the same time that they cease to feel any pain in the uterus, or but a less degree, they fall into a state of oppression or extraordinary uneasiness, which is but little short of fainting; and the extremities become so cold, that scarcely any warmth can be excited in them." It is, perhaps, impossible to detect this termination before the death of the patient; the cessation of pain and the fœtid discharge may take place from so many causes, independent of gangrene.

302. *Diagnosis.*—1. From the uneasiness and difficulty attendant on evacuating the bladder and rectum, the complaint might be mistaken for *inflammation of those viscera,* but an *internal* examination will reveal the real nature of the disease.

2. From *scirrhus uteri.* The uterus is but slightly enlarged, and there is none of the hardness so remarkable in scirrhus; besides which, the tenderness is much greater in inflammation of the uterus, and the heat is increased.

3. From *cancer uteri.* An internal examination will inform us that ulceration has not taken place; and the discharge (if there be any) is

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* Dr. J. Clarke: Trans. of a Society for the improvement of Medical and Surgical Knowledge, vol. iii. p. 560.

† Diseases in Women, vol. ii. pp. 35, 36.

of a bland character, very unlike the fœtid discharge in cancer. The general symptoms also are much milder.

4. A thorough investigation into all the symptoms will prevent our treating the *gastric irritation* as the sole or principal malady.

303. *Treatment.*—Much of the activity of the treatment will depend upon the *acute* or *chronic* character of the attack, and upon the constitution of the patient. Venesection will only be necessary where there is fever. Cupping the loins, or leeches to the vulva or anus, to be repeated if necessary, are preferable. We can even apply leeches directly to the uterus itself by means of the speculum, and this is advised by Guibourt and Duparcque. Punctures of the uterus are recommended by Dujarrie Lassave.

In *acute* cases, after the employment of antiphlogistics, and in all *chronic* cases, much benefit may be anticipated from counter-irritation, either by the insertion of a seton, or by a succession of blisters to the sacrum. A hip-bath should be frequently used, and vaginal injections of bland mucilaginous fluids thrown up, twice or three times a day. Cooling and anodyne enemata have been recommended. Mr. Stewart* even prefers them to the vaginal injections. Externally, fomentations (*e. g.* decoction of poppy-heads, with a small quantity of laudanum,) are highly beneficial; and at a more advanced stage, embrocations to the loins.

As to internal medicines, probably our surest reliance is upon calomel and opium, given so as to affect the system, and with more or less rapidity, according to the urgency of the case. Should diarrhœa render the continued employment of the calomel impossible, the opium may be given alone. It is better not to administer purgatives until after the subsidence of the inflammation, as the action of the bowels aggravates the pain. Waller prefers saline purgatives, with diaphoretics, to all others. Small doses of antimony may be given in saline draughts, with three or four drops of laudanum, or a drachm of the syrup of poppies. Diuretics have also been recommended.

The diet should be light, yet nourishing. The patient should sleep on a hard bed, and apart from her husband.

In chronic cases, when permanent thickening of the uterine parietes or hypertrophy has taken place, both general and local means for promoting absorption should be employed. Great benefit may be expected from the use of iodine in such cases. I have seen several cases of this kind, in which the prolonged exhibition of this remedy was followed by a very decided diminution in the volume of the cervix and body.

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* Med. Chir. Trans. vol. v. p. 124.

CHAPTER XVI.

FIBROID TUMORS OF THE UTERUS.

304. As this is not a treatise on pathological anatomy it is not necessary for me to enter into much detail as to the different morbid structures which form in the walls of the uterus, but grouping them together for practical purposes I shall under this title include all the more dense morbid growths, which have little or no influence upon the constitution from peculiarity of structure, but whose effects are chiefly mechanical; which are rarely inflamed or ulcerated;* and which are not malignant. The only division I think it necessary to make, is into those which have a pedicile and those which have not. The symptoms, consequences, and treatment of these two classes vary much, even though in structure the tumors may be identical.

305. Let us, then, first consider the *non-pediculated tumors* of the uterus, or, as they are ordinary called, *fleshy and fibrous tumors.*

These are by no means unfrequent after the age of 40, though rather so previously, and their presence is as frequent in unmarried as in married females; indeed, Bayle thinks them rather more common in virgins. He asserts that one out of every five old women has them. Out of twenty uteri examined by Portal, he discovered fibrous tumors in thirteen. Sir C. M. Clarke has never met with them in females before the age of twenty years.

They are found of all sizes, from that of an almond to that of a man's head. Gaultier de Claubry met with one weighing 39lbs.; another, which projected externally by a pedicle of an inch thick from the fundus, weighed 40lbs., was forty-six inches in circumference, and thirteen in diameter, is described by Kummer. It would not be difficult to multiply examples, but it is more important to observe that the consequences of such tumors are not in proportion to their size. The tumors may be single, or they may consist of a congeries of smaller tumors, each with its own capsule, but agglomerated so as to form apparently one large mass, which may render an investigation for other purposes difficult.†

These tumors may either be imbedded in the uterine parietes, or they may be immediately behind the serous or mucous membranes; of course, in the latter case, they will project externally or internally, causing a considerable alteration in the figure of the womb, and a diminution in its capacity. It is very rarely that they commence near the cervix. After an examination of seventy-four preparations in the

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* Quarterly Journal of Medicine, March, 1822.

† Clarke on Diseases of Females, vol. ii. p. 208.

London Museums, Mr. S. Lee states that the most frequent position is the submucous, just below the openings of the fallopian tubes; next, the posterior wall and fundus of the uterus; very rarely in the anterior wall, and still more rarely in the cervix uteri.

306. *Pathology.*—The structure of these tumors varies much. Some of them, when cut into, exhibit a fleshy texture, with a slight interlacing of fibrous lines; these are the softest of this kind of morbid growth, and were called fleshy tubercles by Hunter and Baillie. Others have been described of a more red and vascular structure, resembling very much that of the uterus. But those which are ordinarily met with are much harder and more dense. They are composed of a white or grey fibrous tissue, with cellular areolæ. Here and there portions may be detected softer or harder than the general mass. Some of these harder portions consist of calcareous matter, which has been analysed by Drs. Turner and Bostock. The former found it to consist of carbonate of lime and animal matter, but the researches of the latter chemist have discovered a greater variety of component substances. In three cases he found phosphate and carbonate of lime, with animal matter; in three others, phosphate, carbonate, and sulphate of lime, with albumino-serous matter. The proportions of these constituent parts varied a good deal.* When the substance is cut into, the surfaces may be dull or resplendent, intersected irregularly with numerous white lines, and here and there resembling divided cartilage. Occasionally a large vessel may be discovered, generally on the surface of the tumor; but far more frequently there are none to be seen.

According to Sir C. Clarke and others, injections cannot be made to penetrate their substance.† Mr. S. Lee states, "I have examined many portions of these tumors from various situations of the uterus by the microscope, and find that they invariably present a cellulo-fibrous appearance. From a part of a central tumor three different degrees of the same object were observed: in one portion, the cellular tissue predominated; in another, the fibrous tissue, combined with cells; and in a third, the true-looped fibrous tissue, radiating from a centre, and diverging into a form resembling the star fish."‡ If they be examined exteriorly a little more minutely, it will be found that they receive a more or less perfect covering of the uterine fibres. Sometimes the tumor is entirely enveloped in them; at others, only that portion nearest to the uterus. We shall find this an important consideration in these tumors, which, by natural growth, or by force of compression, assume the form of polypi. According to the researches of Vogel, Oldham, Barnes, Bristowe, &c. it appears that the microscope establishes the identity of the structure of fibroid tumors, when unchanged, with that of the uterus: it being composed of unstriped fibre and elongated nuclei;* so that in fact these tumors are not a new formation but an outgrowth of the uterine tissue. The shape of the tumors will depend very much upon their situation; those which encroach upon the cavity of the womb, for instance, will be modified by the pressure of its parietes;—we may find them round, angular, or conical, and sometimes lobated.

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* Dr. Lee on fibrous tumors of the uterus, in the Medico-Chir. Trans. vol. xix. Macintosh: Pract. of Physic, vol. ii. p. 409. Cruveilhier: Anat. Pathol. liv. 13, pl. 4.

† Diseases of Females, vol. i. p. 169.

‡ On Tumors of the Uterus, p. 6.

Authors are now pretty well agreed as to the progressive changes which take place in these tumors. Dr. Baillie, in 1787, suspected that the calcareous concretions discharged from the uterus originated as fibrous tumors; and the researches of Bayle, Bichat, Knox, Breschet, and Andral confirm this view.† We may therefore regard those morbid growths which present a gradual increase in density, as the same species of tumor in different stages; commencing with the fleshy soft structure; and terminating in the calcareous concretions which have been noticed by many authors.‡

"According to Bayle, fibrous bodies are observed to increase gradually in consistence, from their first sarcomatous form to their last stage of osseous concretion. To this it might be replied, that the least considerable of these tumors are fibrous, cartilaginous, osseous. But here we shall answer with Bayle, that amongst the sarcomatous tumors, there are some which have a tendency at once to maintain a soft consistence and to increase in size, and that it is principally these which acquire those considerable dimensions spoken of above, tending also to reach the surface, and to become pediculated. Others, on the contrary, with less tendency to increased volume, acquire rapidly a greater consistence: thus it appears that the smallest are those which harden most rapidly, or it may be said that the early induration checks all further increase. The condensation of the tumor is not so gradual as to present all its parts, cartilaginous or osseous, simultaneously: ossification sometimes begins at the centre, though more generally in a great variety of parts."§ These changes take place somewhat irregularly, so that it is not unusual to find different portions of a tumor in different stages of progress. Some parts will be found soft and fleshy, others cartilaginous, and others again will present calcareous particles. These calcareous particles are generally deposited in the more dense portion of the tumor; but they have been found on the external surface, forming a complete shell. And it is generally found that the smaller tumors are the more advanced. They are most frequently solid, but examples of hollow ones are on record. In a very few instances, inflammation has taken place in the covering of the tumor, and superficial erosions or ulcerations have followed; but as a general rule it may be stated, that fibrous or fibro-cartilaginous tumors of the uterus are not liable to ulceration.

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* Path. Anatomy by Jones and Sieveking, p. 674.

† See Dr. Lee's Paper in Med. Chir. Trans. vol. xix.

‡ Med. Commentaries, vol. iii. p. 58; vol. iv. p. 452. Ed. Med. and Surg. Journal, vol. ii. p. 22. Waller's edit. of Denman, p. 80. Burn's Midwifery, p. 110.

§ Boivin and Dugès: Diseases of the Uterus, &c. p. 181.

307. *Causes.*—The causes are extremely obscure, and probably are to be found in the temperament of the patient, her age, and the anatomical peculiarities of the uterus. They are most frequent in persons of the lymphatic temperament, and in those who have passed the middle age. Women who have never borne children are as obnoxious to them as those who have been mothers. De Haen supposes that contusion may be a predisposing cause of these morbid growths, but it can hardly be a frequent one.

308. *Symptoms.*—As it is extremely rare to find the tumors attacked by inflammation or ulceration, the symptoms are either mechanical, or owing to the interruption of the uterine functions,* or to the sympathies excited in distant organs. The patient will complain, in most cases, of a weight in the pelvis, of bearing down, and aching in the loins. If the tumor be large, inconvenient pressure may be made upon the bladder or rectum, impeding the evacuation of their contents, at the same time that the desire to void urine or fæces is distressingly frequent; or pressure may be made upon the ureters, preventing the passage of the urine, distending these canals enormously, and giving rise to disease of the kidney, as in a case related by Dr. Murphy.† Cramps in the thighs and legs may occur, or the lower extremities may become œdematous.‡ If the tumor be large, and situated near the fundus on the outside, it may give rise to retroversion of the womb. A case of this kind was admitted into the Meath Hospital two years ago.

The presence of these tumors very frequently interferes with the menstrual function. In many cases I have known it to become very irregular, and in several it was altogether suppressed. Lee says that menorrhagia occasionally occurs on the other hand. Hemorrhages rarely occur so long as the tumor is not pediculated, although we occasionally meet with them.§

Further, although conception may take place, utero-gestation is very frequently interrupted at the third or fourth month, and abortion occurs, probably owing to the difficulty of distending the uterus, or perhaps to the imperfect circulation occasioning inefficient nutrition. Dr. Ingleby remarks—"A tumor imbedded within the proper tissue of the uterus, but not implicating the fallopian tube, does not prevent impregnation; thus, fibrous diseases and pregnancy are frequently combined." "In the unimpregnated state, the existence of a tumor of moderate dimensions may not even be suspected; but when associated with pregnancy, the increase it then undergoes will probably lead to its detection. It either remains tranquil throughout pregnancy, and escapes notice, or the passive state merges into sub-acute inflammation, the substance being painful when examined with the hand, or subjected to accidental pressure. The constitution participates in the excitement, as denoted by deranged gastric and intestinal functions, increased frequency of pulse, and more or less emaciation. These symptoms soon yield to judicious treatment—comprising the application of leeches, the recumbent posture (reposing on the back, or the side opposite to the tumors,) the moderate use of anodynes, the regulation of the bowels by very mild means, the tepid hip-bath, and a spare, unirritating diet. In subsequent pregnancies, the tumor rarely enlarges in the same ratio, and occasions but little comparative inconvenience."*

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* Denman's Midwifery, p. 80. Clarke on Diseases of Females.

† London Journal of Medicine, October, 1849, p. 981.

‡ Lancet, Mar. 30, 1839, p. 58.

§ Archives Gen. de Med., Oct. 1839, p. 193. Ashwell: Guy's Hospital Reports, No. 6, p. 137.

Lastly, if labor come on at the full term, parturition may be rendered difficult, and there is danger of flooding, owing to the incomplete contraction of the uterus.†

M. Forget, who has published a valuable paper on this disease, arrives at the following conclusions: "1, that these fibrous tumors are no more an obstacle to fecundation than uterine polypi; 2. that they are not a necessary cause of abortion—that pregnancy may run through all its phases even though they are present; and that when abortion is the result, the time at which it takes place may present a certain coincidence with the position in the uterus which the tumor occupies. Bearing in mind the mode of development of the uterus during pregnancy, it is reasonable to suppose that if these bodies occupy the fundus, or the whole of the superior segment of the uterus, abortion will happen in the early months; and that if it is the lower part of the uterus which is affected, abortion will not ensue until later. Lastly, observation shows that in general, the danger arising from these tumors does not commence until parturition sets in; it is frequently followed by hemorrhage, which is often speedily fatal."‡

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* Facts and Cases in Obstetric Medicine, p. 132.

† Such cases occurred to Mad. Boivin, Chaussier, and D'Outrepont. See Bulletin de la Faculté de Med., Feb. 1823, and the Archives Gen. de Med., May, 1830.

‡ Bull. de Therapeutique, April, 1846. Ranking's Abstract, vol. iv. p. 182.

Dr. Eldredge relates a case, in which a fibrous tumor weighing two pounds, which had neither interfered with pregnancy nor labor, was expelled thirty-eight days after delivery.*

The natural mucus is considerably increased in quantity, but unaltered in quality. In some rare cases where the uterus has been much distended, the mammary sympathies have been much excited, and the breasts have swollen, without a possibility of pregnancy. It is very rare indeed that there is any constitutional disturbance, except, perhaps, as secondary to the functional derangement. There may be some degree of emaciation. If the patient be thin, a careful examination of the abdomen may detect a tumor in the region of the uterus, and we may thus sometimes estimate its size and density. When the tumor is situated in the lower part of the uterus, a vaginal examination† will reveal its situation, size, and density. We shall find it covered by a smooth membrane, without any breach of surface, and insensible to pressure. If the two modes of examination be conjoined, we shall perceive the identity of the uterine enlargement, since by depressing the tumor felt in the abdomen, a shock will be communicated to the finger in the vagina.

The growth of these tumors is extremely slow: months may elapse without apparent increase, and years without the slightest inconvenience.

Whilst speaking of their freedom from ulceration, &c. generally, it must be mentioned that the investing membrane has occasionally been attacked with inflammation, without the participation of the new structure; some cases of which I have seen, where the inflammation spread to the peritoneum; and also that other and more formidable diseases may co-exist. For example, Sir C. Clarke mentions a case where corroding ulcer of the uterus and dropsy of the ovary were superadded to fibrous tumors. Dr. M. Hall relates a case where fibrous tumors co-existing with pregnancy, were attacked by inflammation.‡

309. *Diagnosis.*—1. From *pregnancy.* Although the sympathetic irritation of the breasts and tumor in the uterine region, &c. may render the case doubtful at first, yet a little further investigation, by showing the absence of all the other "signs," will prevent any mistake.

2. From *congestion and induration.*—Fibrous tumors are generally

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* Boston Med. and Surgical Journal, Feb. 2, 1848.

† Dr. Clarke says (vol. i. p. 274) "If an examination be made, a hard, large, resisting tumor may be felt; but the os uteri will have undergone no change; the opening will not gape as in carcinoma; neither will the patient complain of pain when the tumor is pressed upon."

‡ Principles of Diagnosis, 2nd edit. p. 307.

insensible, well-defined, and hard: the uterus, in a state of congestion, is very sensitive, the swelling is diffused, and the tissue not particularly firm. In some cases, however, the tumor is covered more or less by the uterine fibres, which are not insensible, or its proper covering may be inflamed and tender, which will require more care in the diagnosis. When the tumor is not situated near the cervix, its defined form and prominence are very characteristic.

3. From *scirrhus or carcinoma*, by the more partial and better defined character of the tumor; occasionally by its great volume; by the absence of pain, hemorrhage, and sensibility.

4. From *polypus uteri*. There will be little or no difficulty in distinguishing these two diseases, if the fibrous tumor be situated in the parietes of the upper part of the uterus, by its defined shape and prominence; but when it is near the cervix, it may easily be mistaken for a polypus not yet expelled, especially if there be hemorrhage; because if a polypus be enclosed in the body of the uterus, all the signs of fibrous tumor will be present, with hemorrhages, but no special indication of polypus. In process of time, however, the polypus will be forced through the os uteri, and its progress indicated by the descent of the tumor, and the gradual obliteration of the cervix uteri. It should be also remembered, that a fibrous tumor, at this part especially, is convertible (by a gradual progress) into a polypus. If the finger can be introduced through the os uteri, we may perhaps be able to discern the character of the tumor; and the absence of expulsive efforts, after the disease has lasted some time, will be additional evidence in favor of its being the disease under consideration; but it must be confessed that the diagnosis is not always an easy one.

5. From *ovarian disease*, by a conjoined abdominal and vaginal examination, establishing the identity of the enlargement; no depression is felt by the finger in the vagina on pressure of the abdominal tumor, where the latter is an enlargement of the ovary. There is also more hardness, less mobility, and less constitutional irritation.

310. *Treatment.*—If the health be undisturbed, and if the size of the tumor be not such as to impede the functions of some neighbouring organ, nothing need be attempted in the way of medical treatment.

The patient should be careful of incurring any risk of inflammation from injury, &c.; and all reasonable attention should be paid to the general health. Symptoms may be met as they arise, and the principal mechanical inconvenience will be avoided, by securing the regular evacuation of the rectum and bladder. If catheterism be necessary, a little management will be required in the introduction of the instrument. An elastic gum male catheter is the best, both from its length and flexibility. It will often be necessary to have the stilette very much curved at the end. The cramps may sometimes be relieved by change of posture; and, if possible, it may be well to adopt Sir C.

Clarke's suggestion, and push the tumor above the brim of the pelvis.* If there be any indication of congestion or local irritation, a few ounces of blood may be taken by cupping the loins, or by leeches to the vulva. Relief has also been found from frictions of the abdomen, with soap liniment and laudanum. It will not be necessary to interfere with the vaginal discharge, unless it be very profuse; in which case mild astringent injections will answer the purpose perfectly.

Hitherto our attention has been occupied by palliative measures alone; whether more than this can be effected may perhaps be a question. We know that such tumors have been absorbed spontaneously;† and as we know also that certain medicines have the power of quickening absorption, it is not unreasonable to expect that a judicious administration of such may be followed by success. The two remedies upon which most reliance can be placed are mercurials in small doses, with frictions to the abdomen, or flying blisters and iodine. Well ascertained facts are extremely scarce. Some cases under my care seem to have been benefited by the former plan; but as they were dispensary patients, that very circumstance caused them to cease their attendance, and I lost sight of them. Dr. Ashwell‡ has published some very interesting investigations into the effects of iodine upon uterine tumors, but their value is lessened by the extreme caution of the author in not defining the nature of the tumor. The tumors were hard, and not ulcerated; some entirely disappeared, others nearly so. The iodine was given internally, and applied to the cervix by the finger, sponge, or whalebone, every night. The ointment is thus composed:

℞. Iodini puri	gr. xv.
Potass hydriod.	ʒii.
Ung cetacei.	℥ii. M.

The average time for resolution was from sixteen to eighteen weeks. In addition, benefit was derived from cupping the loins, mild unstimulating diet, gentle aperients, and narcotic injections into the vagina. Dr. Ashwell's inferences from his cases are as follows;—

First. The internal administration of iodine, and its use by inunction, in hard growths or tumors of the uterus, *is decidedly beneficial;* the advantage, if the remedy be judiciously employed, *being unattended by constitutional injury.* Secondly. In hard tumors of the walls, or cavity of the uterus, *resolution or disappearance is scarcely to be expected,* since the growths are adventitious or parasitic, and are not embedded in glandular structure. Here the prevention of further deposit—in other words, *the restraint of the lesion within its present limits, and the improvement of the general health*—will be the extent of the benefit derived. Thirdly. *Hard tumors of the cervix, and indurated puckering of the edges of the os (conditions which most frequently terminate in ulceration) may be melted down and cured by the iodine.*"

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* Diseases of Females, vol. i. p. 276.

† Clarke: Diseases of Females, vol. i. p. 276.

‡ Guy's Hospital Reports. Paper on hard tumors of the uterus, treated by iodine, by Dr. Ashwell.

Dr. Simpson states that he has latterly succeeded in reducing the size of the fibrous tumor by the administration of bromine, and as our remedies for the purpose are so limited, it deserves a fair trial.

In some cases nature itself makes an effort at a radical cure; the outer covering of the tumor becomes thinner and thinner, until at length it is partially absorbed, or worn through; and a trifling uterine effort suffices to remove the tumor from its bed, and to place it as a foreign body in the uterus, from whence it is gradually expelled, as in Dr. Eldridge's case. Taking the hint from such an occurrence, Lisfranc, Simpson, and others have repeatedly succeeded in enucleating and removing these tumors. In general it is necessary that the tumor be of moderate size, that the layer covering its surface be thin, and that it be within reach. The layer may be divided with the finger nail, a scalpel, or by means of caustic; and then, by gentle manipulation with the points of the fingers, the tumor may be raised from its bed, and brought free into the uterine cavity. Professor Simpson has recently removed a tumor weighing several pounds, by enucleation; first destroying the outer layer, or a portion of it, by caustic potash, the patient being under the influence of chloroform; and then removing the tumor.

Dr. W. L. Atlee, of Philadelphia, has performed a still more daring operation for the removal of these tumors. In a case where the tumor was covered only by peritoneum, and filled up the pelvis and a great part of the abdomen, he made a large abdominal section, and removed the tumor. The patient recovered. I do not think, however, that the chances of success are worth the risk. He has moreover proposed the breaking up of these tumors when within reach, so as to excite the process of sloughing and destruction of the tumor; and in some cases he states that he has succeeded; but the plan involves so much risk that one would fear to recommend it.

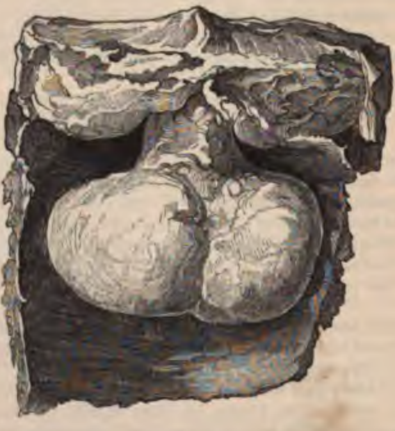
311. There are other collections which form in the walls of the uterus, but to which I have not thought it necessary to devote a separate chapter, since the symptoms resulting (when they give rise to any) are the same as those just described. The following extract from M. Duparcque's work refers to one of these morbid products:—"The womb is occasionally the seat of tuberculous deposition, as well as of the more dense growths. There may, or may not, be a membrane surrounding the matter, which is sometimes very small in quantity; at others, collected into larger spheroidal tumors. When cut into, they present the usual transparent greyish appearance, more or less

dense, without any vessels, and generally softer in the centre than at the circumference; commencing at the centre, this softening may extend to the circumference, and then the whole will have a caseous or puriform consistence; and if the resistance of the surrounding parts be inadequate, the sac will burst, and subsequently either cicatrize or ulcerate. It is only when this takes place, that any symptoms denote the presence of this deposition, otherwise it does not appear to interfere with the functions of menstruation or gestation."

CHAPTER XVII.

POLYPUS OF THE UTERUS.*

312. These morbid productions differ from those in the preceding chapter, not so much by a difference in structure as by their difference of form and situation, and the series of important symptoms thence resulting; and like the preceding, they are probably of much greater frequency than has been suspected.



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* Denman's Midwifery, p. 50. Burns' Midwifery, p. 123. Campbell's Midwifery, p. 454. Davis's Obstetric Medicine, vol. i. p. 599. Dewees: Diseases of Females, p. 280. Clarke: Diseases of Females,

Instead of being imbedded in the substance of the uterus, the tumor is attached to some part of it by a neck or pedicle, of a less diameter than the body of the polypus. They are generally round or oval, but are liable to alterations in form, owing to the pressure of the uterine parietes, or of the neighbouring parts. In size they vary very much. They are found a little larger than a pea, producing serious effects, and occasionally of enormous magnitude. One was excised in the Meath Hospital some years ago, which was more than fourteen inches long, and four or five in diameter, at the widest part. Siebold saw one the size of a child's head.† Many similar examples are mentioned by authors.‡

Their color depends partly upon their vascularity, and partly upon their exposure to the air. Some are quite white, others reddish, and others dark brown. Blue veins may be observed on the surface. They vary too in the part of the womb to which they are attached, some growing from the *fundus*, some from the *walls or inner surface of the cervix*, and others from the *rim of the os uteri.* "This distinction," says Dr. Gooch,§ must not be lost sight of, for it is of practical consequence. In ascertaining the nature of the tumor, for the purpose of determining the propriety of removing it by an operation, the mode of its attachment is one of our chief guides; and in this respect, what is true of polypus of the fundus, is not true of polypus of the neck or lip. In polypus of the fundus, the stalk is completely encircled by the neck of the uterus; and if the finger can be introduced into the orifice, it passes easily round between the stalk of the polypus and the encircling neck. In polypus of the neck, the finger cannot be passed quite round the stalk; it may be passed partly round it, but it is stopped when it comes to that part where it is attached to the neck; the stalk is only *semi*-circled by the neck. In polypus of the orifice or lip, the stalk does not enter the orifice, but grows from the edge of it; it feels as if a portion of the lip was first prolonged into the stalk, and then enlarged into the body of the polypus." When a

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vol. i. p. 245. Blundell: Diseases of Women, p. 125. Cyclop. of Pract. Med. art. Pathology of the Uterus. Baillie's Morbid Anatomy, p. 384. Boivin and Dugès: Diseases of the Uterus, p. 192. Siebold's Frauenzimmerkrankheiten, vol. i. p. 685. Trans. of Medical Society, vol. v. p. 14. Med. Chir. Review, Oct. 1838, p. 615. Ashwell: Guy's Hospital Reports. Ingleby's Facts and Cases, and Lectures in Lancet, Feb. 1840. Meigs: Females and their Diseases, p. 242. S. Lee on Tumors, &c. p. 58.

† Frauenzimmerkrankheiten, vol. i. p. 687.

‡ G. M. Richter: Synopsis praxis medico-obstetriciæ Mosquæ, 110. 4. p. 112. tab. 6. A. G. Richter's Medico-Chir. Biblioth. b. ix. p. 125.

§ An account of the more important Diseases of Women, p. 251.

polypus grows within the uterus, it dilates its cavity, neck, and orifice, as in pregnancy. Instead of the orifice, with the projecting part of the neck, forming a narrow chink in a firm thick nipple, it is a round space with thin edges, as in advanced pregnancy. In polypus of the neck and that of the lip, the projecting part of the uterus preserves more of its ordinary form and consistence." It is not, however, at all its stages of growths, that polypus of the fundus, or of the walls and cervix, is so definite; at some early period, it is of course, contained within the cavity of the uterus, and not within reach of the finger. Nay, as in Dr. Ramsbotham's case, it may appear within the os, and be felt or seen one day and disappear again for a few days.* The gradual obliteration of the neck, as recognized by repeated examinations, will be our main guide. The expulsive force exerted by the uterus not unfrequently detaches the polypus altogether, and then we may find it expelled as a round tumor. Polypus of the lip, too, does not necessarily grow by so defined and limited a pedicle from the rim of the os uteri; in the case of the very large one already mentioned, the whole of the posterior lip was involved; indeed it was impossible to point out the line of separation between the uterus and stalk of the polypus. Occasionally, we find more roots than one.†

313. *Pathology.*—The structure of the majority of polypi may be referred to one of three species. 1. The glandular. 2. The cellular. 3. The fibrous. Dr. Barnes divides them into fibroid and vascular polypi, and polypi springing from the mucous membrane. Dr. West into mucous, fibro-cellular, and glandular polypi.

1. The *glandular* polypus consists in an enlargement of one or more of the glandulæ nabothi in the canal of the cervix.‡ It is not unusual to find a cluster of these together, generally about the size of currants or grapes, suspended by very fine pedicles. In texture they are soft, exhibiting something like glandular flesh when cut into, and occasionally containing a very small quantity of mucilaginous fluid.

2. The *cellular* polypus is probably the least frequent of any.§ It occurs singly, or in clusters of two or three; it is soft, and rough, lobulated, or divided into bundles of fibres. It is generally of a violet or yellowish color, and consists merely of cellular tissue, covered partially or wholly by membrane. It resembles nasal polypi very closely. It possesses a much slighter connexion with the uterus than the other species, and is most frequently detached. Occasionally, the pedicle is greatly elongated, constituting what has been called by French

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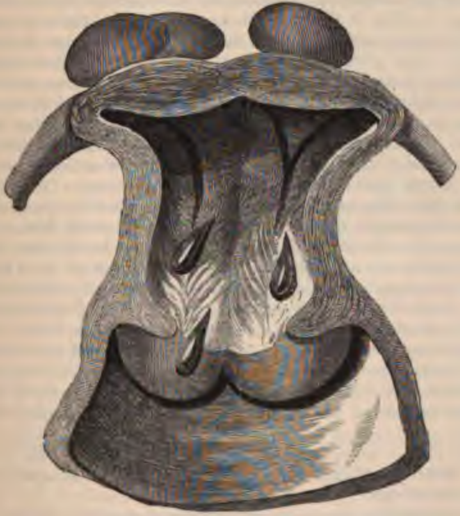
* Med. Times and Gazette, Nov. 27, 1852, p. 537.

† Denman's Midwifery, p. 50.

‡ Lee: Med. Chir. Trans. vol. xix. pp. 127, 128. Cruveilhier: Anat. Path. liv. 11. pl. 6.

§ Clarke on the Diseases of Females, vol. i. p. 244.

writers "*Polypes à pendule.*" Probably the sarcomatus polypi, described by several authors, were really composed of cellular tissue.



3. The *fibrous* polypus is in structure much the same as the fibroid tumor already described,* varying in density in different polypi, and also in different parts of the same tumor. In some few cases they have been found hollow,† either empty or containing grumous blood, or gelatinous matter and hair, or fat with hair.‡ The tumor is always

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* Barnes: Lancet, vol. i. and ii. 1854.

† Boivin and Dugès. Saviard: Obs. 36. Levret: Mem. de l'Acad. de Chir. t. 3. pp. 526, 527.

‡ The following example is related by Mr. Langstaff, in the 17th vol. of the Medico-Chirurg. Trans. p. 63:—

"Mrs. ——, aged 59, in whom, a few days previous to death, there was a large polypus in the uterus projecting into the vagina, died of hemorrhage, before a ligature was applied.

"*Dissection.* The body of the uterus and its parietes were much

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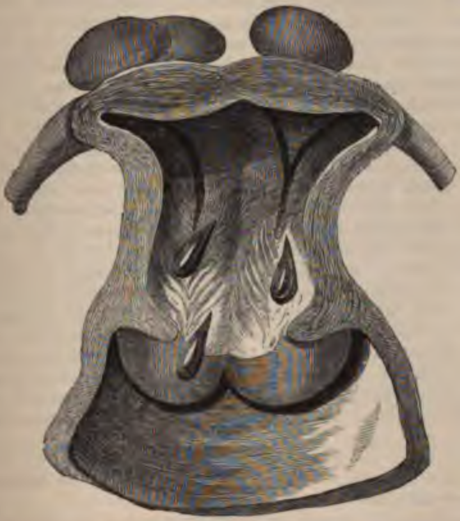

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"*Dissection.* [illegible] arietes were much covered by the lining membrane of the uterus. As to the mode of its connexion with the uterus, it is sometimes united through the medium of cellular tissue, but much more frequently the tumor has originally been somewhat imbedded in the muscular fibres. When it increases in size, it distends the layer of uterine tissue covering it until it becomes very thin; and if the polypus still continue to increase, this thin layer gives way, and only partially covers that portion of the polypus nearest to the uterus. It is rare that some part of the stalk is not thus supplied with an additional covering, besides the uterine mucous membrane, and not seldom the whole tumor is thus circumstanced. With regard to the outer covering of polypi, Boivin and Dugès remark, "Dr. Breschet declares that he has continually observed polypi covered with a thin, smooth, glossy membrane. (*Dict. de Med.*) In other cases this membrane is distinct, fleshy, and becoming thinner and thinner towards the pedicle, in voluminous tumors; thicker, on the contrary, when the tumor is of moderate size; but in every case an evident continuation of the fleshy fibres of the organ in which the polypus originated, was distinctly formed of the interior layer of these fibres, forced inwards, and drawn to the surface of a fibrous body, originally situated in the substance of the parietes of the viscus. Lastly, in certain cases we have found this envelope soft, and have been inclined to attribute its production to an albuminous exudation, secreted by inflammation of the internal surface of the tumor, which had at the first occasioned the inflammation."* This pathological fact has

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larger than natural, yet there were not any signs of carcinoma or fungus hematodes.

"A polypus had formed at the superior part of the fundus of the uterus, which seemed to have had its origin in the muscular coat; it had projected into the mucous surface, and proceeded along the cavity in the form of a large pedicle, nearly equal in size to its base; and the growth had passed through the os uteri into the vagina, where it had acquired the magnitude of a large peach, and assumed the appearance of a fungoid tumor.

"The mucous surface of the tumor in the vagina had been destroyed by ulcerative absorption; it was coated with coagulated blood, which appearance induced me to suppose that the hemorrhage had proceeded principally from this part, and not from the vessels belonging to the internal surface of the uterus. On cutting through the whole extent of the polypus, I found the cervix of a dense structure, exactly similar to that of the uterus; but to my astonishment, when the incision was extended through that part of it which had entered the vagina, I found in its centre grumous blood, contained in a dense cyst, surrounded by coagulated blood."

I met with a similar case a short time ago.

* Hemming's Trans. p. 196.

been perfectly established by the researches of Lee, Barnes, and others, and it affords the only explanation of some phenomena which follow now and then the application of a ligature; and perhaps also of the fact stated by Dr. Charles Johnson, that, contrary to common experience, polypi are not always insensible.*

The polypus is said to grow occasionally from the mucous membrane of the uterus only.

With regard to the circulation in these morbid growths, it cannot be very active, as they are very scantily supplied with vessels generally, though sometimes veins may be discovered near the surface. In Saviard's case, there were two small arteries and two veins. In the Ancien Journal de Med. (tom. 29, 1786), a case is related where two arteries and a vein were detected in the pedicle of a polypus. In a case related by Vacoussain, a distinct pulsation was perceived in the pedicle; and Hemming mentions that there is a preparation in the museum of Bartholomew's Hospital, which exhibits the injection of a polypus from the uterus.† These would appear to be the exceptions, however, rather than the rule. I have examined a number of polypi, large and small, both before and after excision, and I have never been able to detect pulsation in the pedicle, or the mouths of large vessels.

It is extremely difficult to explain, on pathological principles, the occurrence of the alarming hemorrhages which accompany polypus uteri; it is impossible to attribute their source to the vessels of the polypus, since the existence of such can seldom be ascertained; and besides, the floodings are as severe from small as from large polypi.

After stating Dr. Gooch's opinion, that the source of hemorrhage is the surface of the excrescence, and not the lining membrane of the uterus, Dr. Hamilton observes, "But the experience of the author leads him to entertain a very different opinion on this subject; for, in, the *first place*, in no instance to which he has been called has there been any bloody discharge from the surface of the polypus, notwithstanding any liberty he might have taken in pressing upon it or in attempting to twirl it round. 2ndly. He has seen several cases, where frightful hemorrhagy was apparently produced by an excrescence not larger than a filbert, attached to the inner border of the os uteri, and having a smooth polished surface. 3rdly. He witnessed upon one occasion a case of fatal uterine hemorrhagy, three weeks after delivery, where the only apparent cause was a polypus excrescence not larger than a horse-bean, situated upon the internal posterior surface of the uterus, about three inches above the orifice. The author is, therefore, inclined to explain the cessation of hemorrhagy after the application of the ligature round the excrescence, upon a very different principle from that adopted by Dr. Gooch. He presumes that when the tumor is in a state of growth, there must be a certain unusual determination of blood to the vessels which nourish it; but this cannot take place without an increased flow also being directed to the uterine vessels. Indeed there is perfect evidence of this, for the uterus keeps pace in increase of size with that of the tumor. Now, if there be an increased determination to the uterine vessels, such is their texture, that very slight circumstances must produce a discharge from them."*

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* "It is said that an inverted uterus is sensible to the touch, while polypi, on the contrary, are void of feeling. This can never be an accurate mode of forming a diagnosis, as we can only judge of the sensibility of the tumor by the expressions of the patient, which are regulated more by disposition than by the extent of her sufferings. I lately attended a lady with uterine polypus, and had I judged by the complaints of my patient, I should have pronounced the polypus to be more sensible than an inverted uterus usually is." Dr. Johnson's "Cases in which a ligature was applied to the uterus."—*Dublin Hospital Reports*, vol. iii. Dupuytren's Leçons Orales, vol. iii. p. 459. Brown: Dublin Journal, Jan. 1838.

† See "Cases of polypus uteri, with remarks by Dr. Ashwell," in the London Medical and Surgical Journal for June 24, 1837.

Dr. Oldham† and Mr. Safford Lee consider that "the principal source of hemorrhage in tumors of a polypoid character, is not from their own vessels, but from their investing vascular membrane, and from the enlarged vessels, principally veins, of the mucous membrane itself; whereas, in other polypi, we shall find proper vessels connected with their structure. When these tumors are covered with a layer of muscular tissue, they acquire another source of hemorrhage."‡

The color varies very much, being sometimes nearly white, sometimes flesh-color, marked by veins, and sometimes nearly brown. Dr. Gooch says,§ "Often as I have touched and removed a polypus, I never saw one in the living subject till Mr. Brodie operated on a case in St. George's Hospital, June 5, 1828. An attempt was made to draw the polypus out of the vagina before removing it with the knife, but the attempt failed, and the ligature was ultimately applied in the vagina with my instruments. Whilst this was going on, the orifice of the vagina was so far dilated as to expose the tumor to our view: it was of a pale flesh-color, mottled, or rather streaked with large blue veins, like the round balls of soap in the windows of the perfumers." Perhaps another evidence of the slight vascularity of these pendulous tumors is afforded by the rarity of morbid changes on their surface: they are seldom attacked by inflammation or ulceration, and they never degenerate into malignant disease.

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* Hamilton's Practical Observations, &c. pp. 43, 44.

† Guy's Hosp. Reports, vol. ii. second series.

‡ On Tumors of the Uterus, &c. p. 42.

§ Diseases of Women, p. 257.

314. *Causes.*—They are said to occur most frequently in persons living in low and damp situations, in those of lymphatic temperament, and in those who follow sedentary occupations. As they have been observed to occur sometimes after abortion, it has been conjectured that a clot of fibrine may have been retained in the uterus, and have become organised; but their attachments would negative this opinion. By some they have been supposed to be nothing more than enlarged lymphatic glands,* which is equally without proof.

They are not common before the middle age† but are equally frequent in single and married females. Malgaigne has given a table of the ages of 51 females in whom polypi were found, collected from the works of Levret, Herbiniaux, Roux, Leblanc, and the theses of the Faculty. There were—

4	women from	26 to 30	years of age.
20	do.	30 to 40	do.
16	do.	40 to 50	do.
4	do.	50 to 60	do.
3	do.	60 to 70	do.
4	do.	70 to 74	do.

Although probably we must agree with Sir C. Clarke, that the exciting cause is at present unknown, this is only saying what is true of similar cases of nutrition in other parts. There is no evidence of inflammation being necessary for their production; all that we can say is, that the uterine tissue, at certain periods and under certain conditions, seems prone to these morbid growths.

315. *Symptoms.*—At an early stage, both the local and general symptoms are extremely slight and undecided, but when the disease is more advanced, they assume a distinct and formidable character. They may be divided into those which are, strictly speaking, pathological, and those which are merely mechanical; the former are rarely absent, let the polypus be ever so small; the latter are never present, except when the polypus exceeds a certain size.

Amongst the former, the most important by far is the excessive loss of blood. Hemorrhages occur repeatedly, but irregularly as to time and quantity. The quantity lost is, in many instances, sufficient to blanch the surface of the body, and even the lips, and to induce all the consequences of anemia. The appetite becomes impaired; the bowels relaxed; œdema of the extremities occurs, &c., and the patient is reduced to the greatest extremity. The attack is at first mistaken for excessive menstruation, and thus advice is not sought until the constitution has severely suffered. In amount of loss, the disease goes on ever increasing. The blood may be discharged in a fluid state, without any smell, or it may come away in clots, some of them being accurate moulds of the polypus to which they have been applied,* and when retained long in the vagina, giving forth a putrid odour, calculated to lead to a wrong diagnosis. There is as much hemorrhage in many cases where the polypus is not larger than a filbert, as where it is the size of a pear: indeed, it would appear that there is sometimes less hemorrhage with very large polypi than with smaller ones. With the very large one removed by Mr. Porter at the Meath Hospital, there had been no "loss" for a considerable time previously. After the removal of the polypus, the hemorrhage ceases immediately and entirely.

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* See Davis's Obstetric Med. vol. ii. p. 620.

† Des Polypes Uterines. Paris, 1833.

As might be expected, menstruation is rendered very uncertain as to the period of recurrence, and irregular as to the amount of secretion. During the intervals, there is generally, but not always, a leucorrhœal discharge in considerable quantity; it may be simply an increase of the natural mucus, or there may be a constant draining of a fœtid, ill-colored discharge from the vagina. According to Denman,† it may be serous, mucous, sanious, or sanguineous.

Another symptom of very constant occurrence is frequent vomiting: this is doubtless consequent upon the loss of blood, and partly perhaps upon the expulsive efforts of the uterus, or dragging down of the polypus. The dyspeptic symptoms, palpitation, emaciation, œdema, and bloodlessness, I have already noticed as the result of the hemorrhages. The patient also complains of a weight in the pelvis, and pressure about the vulva; of a dragging sensation about the loins and groins, of aching in the back, and weariness. Occasionally there are regular bearing-down pains, which recur until the polypus is detruded from the uterine cavity. Sometimes their violence breaks the stalk, and the polypus is altogether expelled. It is worthy of remark, that the portion or root of the polypus left behind in these cases does not originate another tumor. After the polypus has been removed, or previously if it be not too large, we may generally notice a superficial ulceration of that part of the cervix which has been in contact with the stalk of the polypus. This has been noticed by Bennet, Montgomery, and Whitehead, and is a point of some practical importance, as the cure will be incomplete unless the ulceration be remedied.

When the tumor is large, there may be pressure upon the bladder or rectum, at once exciting desire for the evacuation of those viscera, and impeding the performance.

316. The presence of a small polypus does not prevent conception, although it renders the continuance of utero-gestation very doubtful, inasmuch as abortion is very frequently caused.‡ When

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* Hamilton's Observations, p. 14.

† Midwifery, p. 50.

‡ Frauenzimmerkrankheiten, vol. i. p. 700. Stark: Archiv. für die Geburtshülfe, Frauenzimmer und Kinderkrankheiten, &c. b. i. st. i.

a very large tumor descends into the cavity of the pelvis, it may offer a serious obstacle to delivery, and require instant removal; and when contained in the cavity of the uterus, it may be even more detrimental, not by impeding delivery, but by preventing the subsequent contraction, and so giving rise to dangerous or even fatal flooding. Such a case occurred to me in dispensary practice, some years ago. The patient, after a natural labor, appeared for a while to be going on well. In a short time, however, flooding came on, resisting the prompt application of all the usual means for arresting uterine hemorrhage, and in eight or ten hours the patient died. Upon examining the uterus after death, there was found a large cellular polypus depending from the fundus, and which, it was evident, had prevented the due contraction of the uterus. No vessel could be detected in the polypus. My friend, Dr. Radford of Manchester, informs me that he has met with a case very similar; and another of the same kind and equally fatal occurred to Prof. Kilian, and is quoted by Dr. M'Clintock* from the Med. Chir. Review. Dr. Oldham has recorded a case in which a large polypus descended to the vulva after delivery, without hemorrhage, and which gradually shrunk and altogether disappeared without treatment. He mentions another case in which a ligature had been applied, and produced abortion followed by fatal metro-peritonitis.† I was called to a second case, closely resembling the one just related, only that the flooding did not come on till ten days after labor. The uterus could be felt larger than usual above the pubis, until its contractions forced the polypus to the os uteri, where it could be distinctly felt. We succeeded in arresting the hemorrhage; and afterwards, when we would have tied the polypus, it was beyond reach, though the end could be felt. No further hemorrhage occurred, and the patient recovered her usual health. Cruvelhier says,‡ that metritis after delivery has arisen from the presence of these tumors.

317. Polypus has been known to occasion prolapse of the womb;§ or even inversion. Denman,‖ Heaviside, Hamilton of Glasgow, Higgins, Pierson, Oldham, Higgins, Montgomery, &c. have recorded such cases:

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p. 130. Jena, 1799. Siebold's Journal für Geburtshülfe, vol. i. p. 971. Hanck: Wochenscrift für die ges. Heilkunde, June, 1837.

* Dub. Quarterly Journal, May, 1851.

† Guy's Hosp. Reports, vol. viii. part i. p. 69.

‡ Anat. Path. liv. 15.

§ Ruysch's Observ. 6, p. 24. Med. Comment. vol. iv. p. 228. Levret's Essay. Davis's Obstetric Medicine, vol. ii. p. 617. Siebold's Journal, vol. viii. p. 698.

‖ Denman's Midwifery, case 2, pp. 56, 60. Lee's paper. Davis's Obstet. Med. vol. ii. p. 618.

"When polypus of the fundus descends into the vagina, the stalk drags downwards that portion of the fundus to which it is attached, so and I was permitted, through the kindness of Mr. Lynch, to examine a similar one under his care in Jervis-street hospital. The uterus is first distended by the *bulk* of the polypus, and then inverted by its *weight* and the forcing downwards in the efforts of the uterus to expel its contents.

A very singular case is related by M. Loir. A woman, æt. 51, was suffering from polypus, which came away on attempting to tie it. The womb however increased in size, eschars formed in the abdominal parietes, and finally, an opening through which a black mass protruded, which after death was found to be a polypus attached to the inner surface of the uterus.*

If our suspicions be excited, and a vaginal examination be made, (and no case of hemorrhage ought to be passed over without it), we shall at once discover the polypus, provided it be not retained in the uterine cavity. A rounded, smooth, and insensible tumor will be discovered in the cavity of the pelvis, varying in density, and generally pear-shaped. The stalk may be traced up to or through the os uteri, if there be room in the pelvis to pass the finger. We are obliged to be contented with very scanty information, in cases where the polypus is so large as to fill the vagina. When the polypus is very small, and still within the os uteri, there will be no perceptible enlargement of the cervix, and if the finger alone be used, it may escape our notice altogether, but it will easily be detected by the speculum. The larger polypi generally appear whitish, but those of the cervix are of a bright or deep red color.

Should a large polypus be still within the uterus, we shall find that organ enlarged in proportion to the magnitude of the polypus; and the projection of the cervix modified according to the downward pressure of the tumor. If several successive examinations be made, we may feel the cervix withdrawn by degrees, until the termination of the vagina shall be marked only by the dilating os uteri, just as we find it towards the latter end of pregnancy.

If the polypus be small, and still within the uterus, the only mode of ascertaining its presence is by dilating the cervix, as advised by Prof. Simpson,† by means of sponge-tents, until the finger can be passed up into the cavity. This, however, should only be done in those cases where we have good reasons for suspecting their presence, such as repeated irregular hemorrhage without congestion, uterine discharge, &c.

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that in this stage of the disease it is generally complicated with some partial inversion of the uterus. An inattention to this important fact has led to fatal consequences."—*Gooch: Diseases of Women*, p. 252.

* Brit. and For. Med. Chir. Rev. April, 1850.

† Dublin Journal of Medicine, Aug. 1846.

Dr. Montgomery has published a valuable paper on this subject,* containing the results of his experience, and I feel that I cannot do better than lay before the reader his conclusions. These are, "1. That small polypi, or polypoid uterine excrescences, are of frequent occurrence. 2. That they are often not discernible by the touch alone, and so escape notice. 3. That they may even elude detection with the speculum, unless the instrument is capable of separating the lips of the os. 4. That they are a common cause of ulceration and menorrhagia, the cure of which requires, as a preliminary, the removal of the polypi. 5. That while thus, on the one hand, a small polypus may escape detection, there is, on the other hand, a peculiar condition of the anterior lip of the os uteri liable to be mistaken for a polypus, and requiring a long time for its removal. 6. That the very small polypus of the os uteri is seldom solitary; and in common with polypi of other kinds, is very often combined with other diseases of the uterus, especially with fibrous tumors. 7. That these small polypi of the os uteri, when occurring in women of advanced age, especially if they are of the vesicular kind, are often the precursors of a malignant form of disease. 8. That from polypus being very frequently accompanied by ulceration of the os and cervix uteri, and from its concomitant pain and structural alteration, the symptoms are occasionally mistaken for those of cancer; which error is most likely to be committed, if an examination should happen to be made just when a polypus of a larger size is passing through, but still engaged in, and distending the os uteri. 9. That in cases of larger sized polypi, ligature is the means most generally eligible, as being safer than excision, though not so expeditious; its application having in general the immediate effect of restraining the morbid discharges, and ultimately curing the disease. 10. That polypi and polypoid growths, of small size, are best removed by torsion, or in some instances their destruction may be conveniently accomplished by caustic. 11. That with large polypi torsion is unsafe, and should not be attempted. 12. That even with one of small size and slender pedicle, excision is not free from risk of troublesome hemorrhage. 13. That in ordinary cases of benign polypus when no other uterine disease exists, the removal of the tumor by ligature is, in a vast majority of instances, completely successful, even in apparently hopeless cases. 14. That in malignant growths, such as cauliflower excrescence, removal by ligature will sometimes effect a complete cure; and that when success is not so decided, much good may be done by the operation. 15. That the situation whence a polypus springs makes a great difference in the symptoms which it induces. A polypus of the lip of the os gives rise to fewer symptoms and less discharge, than one of smaller size springing from within the os uteri. 16. That fibrous tumors formed in the substance of the uterus may thence descend, pass through the os, and form an ordinary pediculated polypus in the vagina. 17. That in the unimpregnated uterus this change will be effected gradually and slowly, but that should pregnancy occur, expulsion of the tumor may take place rapidly, under the action of labor. 18. That a polypus of large size may make its first appearance immediately after delivery. Lastly, that the cure of long standing polypus, with copious discharge, is liable to be followed by a condition of system requiring to be followed by precautions against a determination to the head."

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* Dublin Journal of Medicine, Aug. 1846.

318. *Diagnosis.*—There are several diseases with which polypus uteri may be confounded, and from which it sometimes requires great care to distinguish it. The very small size of the polypus, or its being altogether within the cavity of the uterus, will add to the difficulty; and in many cases the flooding which accompanies it has been mistaken for menorrhagia. It is quite necessary to make a careful examination, not only with the finger but with the speculum and uterine sound.

It may be distinguished, 1. From *pregnancy*, by the entire absence of the audible and sympathetic signs, by the gradual course of the disease, and by the repeated irregular hemorrhages.

2. From *vaginal hernia.* "Hernial protrusions of intestines into the vagina, (says Dr. Davis) are for the most part exceedingly easily distinguished from polypi of that passage, by their elastic and otherwise characteristic feel; by their perfect sensibility to the touch, and especially to puncture or incision made by a pointed or edged instrument; by their being covered by a production of the mucous membrane of the vagina itself, which generally may be easily enough identified by its characteristic rugæ; by the peculiar crepitus of hernial tumors; by their occasional reducibleness of bulk by compression; and by their almost entire non-possession of the properties which more especially distinguish polypi."*

3. From *vaginal cystocele.* Hernial protrusion of a part of the bladder into the vagina may be distinguished from a vaginal polypus by the peculiarity of its feel, which is nearly equally soft and compressible, but not so elastic as a tumor formed by a protrusion of intestine; by a difficulty, and perhaps pain in voiding the contents of the bladder; by the tortuous direction of the urethra, ascertainable by the introduction of a flexible catheter; by the different sizes of the tumor during states of comparative fulness or vacuity of the bladder; and by its being visibly covered, as in the former case, by a production of the mucous membrane of the vagina.

4. From *malignant polypoid growths.* Occasionally I have seen these growths from the cervix uteri assuming the form of a polypus, and so

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* Obstetric Medicine, vol. ii. p. 622.

like it to the touch that distinction by that means was impossible. Yet it is practically important to distinguish them, inasmuch as removal in the case of malignant polypus only hastens the patient's death. I know of but two grounds upon which we can base our opinion, viz. the presence of cancerous hectic and the results of a microscopic examination. If the latter alone exhibit the cancer cell, it will be sufficient.

5. From *scirrhus and cancer uteri.* The severe pain which precedes ulceration in scirrhous uterus is absent in polypus, and although hemorrhage occurs in both, yet in the former it is after ulceration has commenced, while in the latter no ulceration can be detected. When the pedicle of the polypus is within reach, it will render the diagnosis easy; and in the former case the microscope will be available.

6. From *cauliflower excrescence,* by its greater smoothness and density, by its not bleeding when touched, and by the result of a microscopical examination in cauliflower excrescence.

7. From *prolapsus uteri.* In prolapsus, the os uteri is at the lower part of the tumor; and although there is something like an orifice in some polypi, yet the difference is easily detected by means of a probe or catheter. In polypus also the os uteri may generally be felt in the pelvis, a little lower than usual: in prolapsus the finger can only be introduced a short distance into the vagina. The majority of polypi are insensible, at least at a distance from the stalk, whilst the uterus is equally sensible throughout. The hemorrhages which accompany polypus are absent in prolapsus of the womb; and lastly, the uterus, when completely prolapsed, is very liable to ulcerate, and polypi are not.

8. From *inversion of the womb.* The history of inversion is very different: it generally occurs suddenly after labor, and is accompanied with collapse, hemorrhage, &c. Polypus is of slow growth, and though accompanied with hemorrhage, is not attended by collapse. Inversion may be gradual, but only when effected by the weight of a fibrous tumor or polypus; and in such cases, the presence of the exciting cause will elucidate the case. In inversion, the entrance of the finger is prevented by the reflected parietes of the vagina; in polypus (if the bulk be not too great), it may be passed into the vagina, so as to detect the os uteri. The surface of an inverted uterus is rough, that of a polypus almost always smooth; and the sensibility is greater and more universal in inversion than in polypus.

319. *Prognosis.*—The prognosis must always be grave, so long as the polypus remains, on account of the severe floodings, and the dangerous consequences, both primary and secondary. If not removed, it may prove fatal by exhaustion, or it may give rise to prolapse or inversion; it may prevent conception, or cut short gestation; or, if the patient should carry her child to the full term, the polypus may offer an obstacle

to delivery, or occasion fatal flooding afterward, by preventing the contraction of the uterus. After its removal, however, the patient in general recovers her health rapidly.

320. *Treatment.*—The first question to be determined in the treatment of any case, where we have reason to suspect the presence of a polypus, is, whether it be within reach or not. A vaginal examination will generally enlighten us on this point; but still there is a class of cases to which I have referred, where polypus does really exist, and yet the positive evidence thereof is very slight. In such cases, and in those where the polypus is too high for an operation, or too large to pass through the os uteri, our endeavours for the time must be directed to moderating the present evils, to supporting the constitution, and to promoting the descent of the polypus.* Our first efforts should be to diminish the hemorrhages, by cold astringent injections, by plugging the vagina, by counter-irritation to the sacrum, &c. and by the internal use of astringent remedies. Some good may thus be done; although in most cases I have seen, the relief has been but partial; just sufficient, perhaps, to enable the patient to wait for the descent of the polypus with rather less risk than if nothing had been done. Food of the most nutritious quality may be allowed, but the benefit derived from much wine is doubtful; if given at all, it should be in moderate quantity. In order to hasten the expulsion of the polypus through the os uteri, it has been recommended to give ergot; and more especially, as even if there be no polypus, its effects in restraining the hemorrhage will be beneficial.† If the polypus appear and disappear we may employ the ergot; and at its re-appearance fix it with Museux's forceps, and draw it down and tie it. The lobelia inflata has been given for the purpose of dilating the uterine orifice, and it is said successfully.‡ When the polypus is so large as to be with great difficulty forced through the os uteri, Boivin and Dugès recommend the free application of belladonna to the part, and Dupuytren the incision of the cervix. Dr. J. C. Lee of New York first slit open the cervix, and then applied a ligature to the polypus.§ However, the necessity for either remedy is very rare, as the hemorrhage itself prepares the uterine fibres for dilatation.

If the polypus be within reach, our conduct must be much more decided. Nothing short of removal ought to be contemplated, as that alone will save the patient. There are three modes of removal, and of these the practitioner must select that which appears to him to be best adapted to the circumstances of each individual case.

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* Arnal: Lancette Franç. April, 1839.

† Burns' Midwifery, p. 118. Glasgow Medical Journal, vol. i. p. 411. Med. Gazette, Dec. 2, 1837, p. 398.

‡ Edin. Journal, July, 1835.

§ American Medical Journal, 1855.

1. Certain kinds of polypi may be twisted off. 2. A ligature may be applied, and the polypus allowed to slough off. Or, 3. They may be excised. Siebold adds a fourth method, viz. by the actual cautery, and relates a case in which it succeeded perfectly.* Of all these methods, the ligature is most frequently adopted, on account of its supposed greater safety.

321. 1. *Removed by torsion.* Judging from the fact that certain polypi have been separated by natural efforts, by forcing down, or by various concussions of the body, it was naturally supposed that such as these would easily be removed without having recourse to a formidable operation. It is only with the glandular or cellular polypi that this can be done, and it is of course owing to their looseness of texture that it is possible. The mode of operating is simple enough: the polypus is to be seized with the finger and thumb, or with a pair of forceps suited to the purpose, and twisted gently round until the stalk breaks; it is then to be withdrawn. If it do not yield after a reasonable degree of torsion, or if the stalk be found too thick, it will be better to have recourse to either of the other methods of removal. No hemorrhage, I believe, ever followed the twisting of a polypus; and the discharge which existed previously will cease. The only thing necessary to be done, besides attending to the general health, is to syringe out the vagina two or three times with mild astringent lotions.

322. 2. *Removal by ligature.* This mode, which is by no means of modern invention, has been by many, I believe I might say by most modern writers, considered as preferable to any other. Its peculiar advantage is, that it is a cautious method; it avoids all chance of hemorrhage, and is less formidable than cutting across a mass of unknown structure. It has its inconveniences, however, even beyond those arising from the difficulty of application: for, occasionally, the stalk evinces no disposition to separate, and in other cases, the irritation of the operation, added to the discharge from a semi-putrid mass, has been attended with very serious consequences.

The principle of the removal by ligature is easily explained; by gradually tightening it, the circulation in the polypus is interrupted, and the vitality destroyed; and, in accordance with a known law, an effort is immediately made for its separation from the living parts. Experience has taught us, that this ligature may be applied on any part of the stalk, and with an equally good effect; for the part which remains, instead of being prolonged into a fresh polypus, invariably sloughs away. It has even been successfully applied when the entire polypus was within the os uteri.† If the stalk be very thick, it will be advisable to use two ligatures instead of one, i. e. to pass a needle with a double ligature through the centre of the stalk, and then cutting away the needle, the two halves of the stalk will each be provided with a distinct ligature. This will hasten the separation very considerably.

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* Frauenzimmerkrankheiten, vol. i. p. 709.

† Velpeau: Med. Operatoire, vol. iii. p. 249.

A great variety of *ligatures* and *canulæ* have been proposed: a few only need be mentioned here.

Sir C. Clarke prefers waxed silk as a ligature. Dr. Hamilton* uses silver wire. "Silver wire," says the doctor, "possesses two most important advantages over every other kind of ligature, for it can be applied over the largest polypi by the fingers alone, without any of the complicated mechanical contrivances which have been proposed; and it can be drawn down to the very surface of the excrescence, thereby precluding the chance of involving the uterus." It is added subsequently, that the silver must be pure, and drawn out to about "the thickness of the third string of a violin." Others have used catgut; others, again, silk wrapped around with fine wire. Mr. D. H. Walne† has recently recommended whip-cord, from having observed that, when moistened, it increases in thickness, and diminishes very much in length; thus, as he very ingeniously observes, a ligature of this substance, instead of becoming looser after its application, will tighten itself considerably. Any ligature will answer, however, provided only that it is strong enough, and not too fine. I have used, or seen used, all the kinds I have mentioned, and with equal success.

323. The canulæ in most frequent use are probably those invented by Levret and Niessen; the former consists of two tubes soldered together laterally. The ligature is passed through these, having the ends hanging out near the shank of the instrument, where there are two loops for the purpose of fastening the ligature when tightened. Herbinaux "modified the canulæ of Levret, rendering them moveable or fixed upon each other; with one of them, the noose was passed round the pedicle in order to tie it; it was then withdrawn, the two ends of the thread having been previously passed into that which was to remain, to enable the operator to tighten the ligature." "The instruments of Desault, adapted to the same purpose, are more complete, and more easily used; but his manipulation is perhaps too complicated. Dr. Bouchet de Lyons has substituted a string of perforated ivory beads, which receive the two ends of the noose; these are afterwards rolled round and attached to a small bar of ivory, situated externally.‡ Carus describes an instrument resembling that of M. Bouchet. "The instrument," he says, "consists of a string of beads and two conducting rods made of whalebone, each of them nine inches long;

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* Practical Observations, pp. 65, 66.

† Medical Gazette for July 16, 1836.

‡ Boivin and Dugès: Dis. of the Uterus, &c. pp. 213, 214.

the highest and lowest of the beads have each two holes; the two ends of the ligature are passed through the two holes of the former, then through the single hole in the intervening beads, and through the two holes of the last bead The noose projecting from the highest bead, by means of the rods of whalebone, is pushed up to the back part of the root of the polypus, and then the two rods are carried round the root of the tumor, till the string of beads lies on the front of the polypus; the ends projecting from the two holes of the lower bead are then drawn (so as to carry the string of beads upwards), and then tied.* M. Paul Dubois has proposed a speculum provided with a double sheath, which seizes the polypus, and applies the ligature to its pedicle; but this instrument could not be conveyed into the uterus, even when that organ had been brought downward by pressure upon the hypogastrium; and could besides only grasp excrescences of moderate dimensions.†

Dr. Blundell recommends *Hunter's polypus-needle* as one of the best. "This needle consists," he says, "of a stem of iron, which, though flexible, is nevertheless very stiff, so that you can give it what curve you please, and it will keep that curve; at one end of the stem, there is a loop or eye; at the other end you have a handle, to which the ligature is to be fastened."‡ A double loop of the ligature being left at the end of the stem, it may be passed over the polypus up to the pedicle; or, being passed once through the eye at the end of the stem, the ligature may be introduced, and with the aid of the finger be carried round the polypus; the loose end of the ligature is then to be passed through the 'eye,' and both ends are to be drawn tight.

Dr. Burns,§ speaking of the occasional difficulty experienced in applying a ligature by means of Levret's double canula, observes, "The process may be facilitated by employimg a double canula, but the tubes made to separate and unite at pleasure, by means of a connecting base or third piece, which can be adapted to them like a sheath." And he refers to a similar instrument proposed by M. Cullerier, and described by M. Lefaucheux.‖ The description given by Dr. Burns answers very exactly to the improvement upon Niessen's canula,¶ made by the late Dr. Gooch; but I have no means of deciding to whom the credit of priority is due, nor indeed whether

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* Gynæcologie, vol. i. p. 327.

† Boivin and Dugès: Diseases of the Uterus, &c. p. 214.

‡ Diseases of Women, p. 128.

§ Midwifery, p. 118.

‖ Dissertation sur les Tumeurs cirsconscrites et indodentes du tissu cellulaire de la matrice et du vagin.

¶ Neissen: De polypis uteri et vaginæ, novoque ad eorum ligaturam instrumento. Gotting. 1785.

Dr. Burns did himself use the improved instrument he has recommended.

After noticing the defects of Niessen's canula, and his own alterations, Dr. Gooch gives the following description of the instrument, and of his mode of using it.* "The instrument which I use for this purpose, and which in numerous cases has assisted me through the operation, consists of two silver tubes, each eight inches long, perfectly straight, separate from one another, and open at both ends. A long ligature, consisting of strong whip-cord, is to be passed up the one tube and down the other, and the two ends of the ligature hang out at the lower ends; the tubes are now to be placed side by side, and, guided by the finger, are to be passed up the vagina, along the polypus, till their upper ends reach that part of the stalk round which the ligature is to be applied; and now the tubes are to be separated, and, while one is fixed, the other is to be passed quite round the polypus, till it arrives again at its fellow-tube and touches it. It is obvious that a loop of the ligature will thus encircle the stalk. The two tubes are now to be joined, so as to make them form one instrument; for this purpose, two rings joined by their edges, and just large enough to slip over the tubes, are to be passed up till they reach the upper ends of the tubes immovably. Two similar rings, connected with the upper by a long rod, are slipped over the lower ends of the tubes, so as to bind them in like manner; thus the tubes, which at the beginning of the operation were separate, are now fixed together as one instrument. By drawing the ends of the ligatures out at the lower external ends of the tubes, and then twisting and tying them on a part of the instrument which projects from the lower rings, the loop round the stalk is thereby tightened, and, like a silk thread round a wart, causes it to die and fall off." Dr. Oke, of Southampton, has proposed a modification of Gooch's canula, by increasing the length and curving the extremities of the tubes, and, in place of the stem, substituting a third canula, into which the ligature is to be passed when the other tubes are withdrawn, and by means of which it is to be retained in situ, and tightened.†

M. Favrot adopts another method; he "takes two gum elastic catheters, and cuts off the end of each just above the eye; he then doubles a piece of silk of convenient length, and inserts the loop into one catheter, and the two ends into the other, and brings each extremity out of the lower end. This being done, the next step is to separate the two threads between the upper ends of the catheters, and to bring one down in the form of a loop, leaving the other, which is curved up to the pedicle of the tumor, as in the ordinary operation. The catheters or sounds, together with the interposed threads, are carried up to the base of the tumor, the thread forming the loop being held on each side with the respective catheters. This being done, the loop is allowed to glide over the tumor, the two catheters are transferred to one hand, and the two ends are drawn down so as to tighten the loop, which eventually passes entirely out of the sound which contained it, and encircles the pedicle."* Dr. Ranking has tried this plan but did not find it any improvement upon the operation with Gooch's canula.

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* On the more important diseases of Women, p. 269.

† Provincial Medical and Surgical Journal, December 2, 1846.

It is rather a delicate matter to point out one of these instruments as superior to the rest. Each is recommended, and has been successfully used by men of great experience; and it is probable that more depends upon the operator than upon the instrument. Upon the whole, my experience would lead me to prefer Levret's canula (supposing I used one at all,) if the polypus be small; and Gooch's if the polypus be above a moderate size. I quite agree with the translator of the work of Boivin and Dugès, that it is much more difficult to apply a ligature to small polypi than to large ones; and I think this, among others, an argument for their excision. In many cases I have found great advantage from the cautious use of Museux's forceps. By continued gentle traction, it is quite possible to draw the polypus within view; often to produce it externally, so as to apply the ligature without any difficulty; after which the forceps should be removed, and the polypus permitted to return into the pelvis. Latterly, I have found it more advantageous to excise the polypus below the ligature, after the latter has been tightly applied about twenty-four hours. Great care must be taken that a portion of the os uteri be not included in the loop of the ligature, as it often occasions great suffering. It has already been remarked, that in many cases the uterine fibres are continued for a certain distance upon the stalk of the polypus, and this at once explains the pain which occurs in some cases where the os uteri is intact, and which may require the ligature to be loosened, and afterwards tightened more gradually.

Having chosen the instrument we prefer, and arranged the ligature in the tubes properly, the patient should be placed on her side or back, and the ligature carefully applied in the way described, when considering each kind of instrument. After the operation, the patient must be cautioned against sudden movements, as, if the canula were forced inwards, irreparable damage might be done. In order to avoid this, it is well to let the situation of the canula be anterior to the polypus, and, if necessary, it might be confined to the thigh by a piece of tape. The frequency with which the ligature should be tightened will depend entirely upon there being any constitutional irritation or not; if not, every day will not be too frequent, as the sooner the polypus is removed the better; but if there be much local pain or general disturbance, we must be cautious; we may even have to relax the ligature; at all events, tightening every second or third day will be often enough. After the first day, a syringe-full of tepid water, or infusion of camomile, should be thrown up the vagina each time the ligature is tightened; it will remove any offensive discharge, and will render the patient much more comfortable. After an interval, varying from six days to three weeks, the canula will be found loose in the vagina, and the stalk of the polypus severed. If the tumor be small, a finger will suffice to hook it out of the vagina; but if very large, there may be some difficulty, (especially in women who have not borne children,) and it may be necessary to use a hook or a pair of forceps. There are some cases, however, which are altogether indisposed to separate under the influence of a ligature. A case of this kind occured some years ago in the Meath Hospital, and after remaining some time without any progress from the application of the ligature, Mr. Porter removed it with the knife. During the time the ligature is applied, the patient must, of course, remain quiet in bed; the bowels must be kept free by enemata, and if there be much pain or sleeplessness, an opiate may be given. Injections of tepid water, alum and water, or infusion of camomile, should be used each day for some little time after the fall of the polypus. In most cases, not a drop of blood is discharged from the time the ligature is applied, and with care the patient almost always rapidly recovers from the state of anemia into which she had fallen, and from its secondary consequences.

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* Revue Med. Chir. Jan. 1848.

There are exceptions, however, to this satisfactory convalescence, and patients have been known to die from irritative fever, before the separation of the polypus,* and of uterine phlebitis succeeding the operation. A case of the latter kind occurred in St. George's Hospital, under the care of Mr. Babington,† and a similar one to M. Blandin. Dupuytren met with eight or ten fatal cases, which presented all the symptoms which arise from the absorption of pus into the system.

324. *Removal by excision.* A due estimate of the inconvenience arising from the presence of a semi-putrid body in the vagina, during the time the process of separation by sloughing is going forward, with experience of the occasional difficulty of procuring separation by such means, together with the absence of large vessels in the majority of polypi, has led many eminent practitioners to substitute excision with the scissors or bistoury for ligature. Amongst these we find the names of Simson, Osiander, Hervez de Chegoin, Siebold, Mayer, Dupuytren, Dieffenbach, Langenbeck, Arnott, Simpson, Brown,‡ &c. Siebold and Mayer of Berlin only approve of the ligature in two cases. 1st. When

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* British and Foreign Review for July, 1837, p. 183.

† Cyclop. of Pract. Med., art. Pathology of the Uterus, vol. iv.

‡ Dublin Journal, Jan. 1837, p. 360. Velpeau: Med. Operat. vol. iii. p. 609.

an artery can be felt pulsating in the neck of the polypus. 2. When the neck of the tumor is so thick, that it probably contains large vessels. In all other instances, they prefer excision, on the ground of the difficulty of applying a ligature; and because when applied, the symptoms are apt to be more severe, and the annoyance greater than after excision. They operate with round-pointed scissors, curved like a Roman S both in the blades and handles, and from 9 to 10½ French inches in length. The division of the neck of the tumor is to be effected not all at one, but by repeated strokes of the instrument. In Mayer's work, six cases are related in which polypi of the uterus were thus successfully removed by Siebold and himself. The latter author mentions the following as the circumstance which would call for excision of the polypus rather than the ligature. "1. When the polypus is either detruded from the uterus, or can be drawn down with a pair of forceps, or when it is attached to the os or cervix uteri, the stalk being thin, and there being little evidence of vascularity. 2. When the ligature has been applied for some time, and the polypus is sufficiently within reach, it may be excised below the ligature. 3. When the stalk of the polypus does not separate after the application of the ligature. 4. When the polypus has entailed an inversion of the uterus."[*] Dupuytren removed 200 polypi in the course of his practice, and hemorrhage only occurred twice in so large a number. Velpeau has treated eight cases thus, without any hemorrhage at all. Arnott and Brodie have been equally fortunate.[†] It has been tried by some of the most eminent surgeons in this city, and I have in some instances adopted the plan myself, with perfect success. In another case, hemorrhage took place to an alarming extent, though the polypus was very small. Dubois lost more than one patient from this cause.[‡]

Langenbeck states that he has found the hemorrhage cease soon after the removal of the polypus, but that during the last ten years, ten cases of pyæmia have occurred to himself alone, and he advises that if a ligature be used, it should be only as a precautionary measure, and that after it is tightened the polypus should be excised.[§]

The hemorrhage is the only objection, that I am aware of, to this method of cure. There is very little danger with the larger polypi, however, as the stalk rarely contains vessels of any size: should such be felt pulsating, it would, no doubt, be wiser either to trust to the ligature, or to a modification of the two; *i. e.* to tie the stalk of the polypus, and after twelve or twenty hours, cut off the polypus below the ligature, leaving that for some days as a security against hemorrhage. There are other cases in which excision would be impossible or hazardous; as, for instance, when the polypus has only just descended through the os uteri. If doubtful, the ligature should be used.

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[*] Frauenzimmerkrankheiten, vol. i. p. 710.

[†] See Brit. and For. Review for July, 1837, p. 183.

[‡] Dict. des Sciences Med., art. Polypus.

[§] London Journal of Med., July, 1850.

The mode of operating is simple enough: the patient being placed on her back or side, the polypus must be seized either with the fingers, a hook, or a small pair of forceps, (those invented by Museux will answer very well,) and drawn without the external parts. Sometimes, though rarely, it can be forced down by the natural efforts. When protruded, it is to be seized by the operator, and divided close to the vulva by a stroke of a bistoury, or the clip of a pair of scissors; the former appears the best when the polypus is external. Dr. Simpson has invented a very convenient instrument for this purpose, which he calls a "polyptome:" it may easily be applied round the neck of the polypus, and cannot injure the neighbouring parts.*

When, however, the polypus is small, and the uterus high, we cannot draw it through the vaginal orifice, but must be contented to carry up a pair of blunt-pointed scissors, guided by one or more fingers, and to place the polypus between the blades, so as to cut it across. In these cases the speculum will sometimes be found of great service. It will be an advantage, if the blades of the scissors be curved at their extremities. If after the operation there be any fear of bleeding, an astringent injection may be thrown up the vagina, or a plug introduced. Of course, the patient must rest quietly for some days.

Dr. O'Grady of Malahide has contrived a pair of forceps, the points of which resemble a divided quill, and when closed form a short cylinder, capable of containing a small quantity of caustic. The edges of each half are sharp, so that when applied to the stalk of the polypus we have the combined efforts of pressure and caustic, which Dr. O'Grady says he has found to destroy the vitality speedily,†

For removing intra-uterine polypi, after dilating the os uteri sufficiently, Dr. Simpson has had recourse to an instrument—strong forceps or a lithotripsy instrument—by which he could contuse and crush the tumor, or he has divided the stalk by silver wire or ligature, acting on the principle of a chain saw, or by means of a pair of very curved blunt-pointed scissors. In the case of small vesicular polypi of the cervix, he thinks that not only should they be removed "by the nail, scissors, or forceps," but that, to effect a complete cure, caustics must be applied, and he recommends the potassa fusa, whose action can be controlled by acetic acid.

325. In conclusion, it may be well to recapitulate the respective advantages of the two plans. By *the ligature*, it is said,—1. You avoid the danger of hemorrhage. 2. You destroy the polypus more effectually.

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* Obstetric Works, vol. i. p. 150.

† Dublin Medical Press, Aug. 20, 1851.

By *excision*. 1. The tedious process of separation by sloughing is avoided. 2. There is less chance of constitutional irritation, or of local inflammation. 3. The danger of hemorrhage is slight: even if it should occur, it can be commanded by astringents, plugging, or the actual cautery.

326. In some of the cases I have mentioned, a modification of the treatment which has been detailed will be necessary.

If we could ascertain that the flooding after delivery depended upon a polypus in the womb, the best plan probably would be to introduce the hand and twist it off. Judging from its cellular structure, this could have been easily done in the case which occurred to me.

Where the polypus has dragged down the uterus, it may be necessary, after the removal of the excrescence, to maintain that organ in its place by a pessary; at all events, astringent injections should be frequently used. But if the uterus have been inverted by the weight of the polypus, as there can be little hope of reducing the inversion, and as this is a serious disease in itself, it may perhaps be deemed advisable to remove the whole. The polypus should be first separated, and then a ligature may be applied round the neck of the uterus, and it may either be left to slough off, or it may be amputated below the ligature.*

After the removal of a polypus, the mucous as well as the bloody discharge ceases: and in most cases, if the hemorrhage have not been enormous, the patient recovers her health speedily. There are exceptions to this rule, however; for Dr. Hamilton* states that he knew three patients die after the removal of the polypus. It will be necessary to look to the erosion which generally co-exists, and apply some mild caustic. I think too, that I have quickened the removal of the remains of the stalk of the polypus and favored the cure by the same means.

It will be the duty of the practitioner to apply himself sedulously to the mitigation or removal of the secondary symptoms which the loss of blood has entailed. The strength must be supported by broths, jellies, or by animal food, as the stomach may best bear it; wine should also be given, and either vegetable or mineral tonics. If there be diarrhœa, as not unfrequently happens, cretaceous mixture of powder with kino, catechu, or opium may be given. Moderate exercise in the open air in a carriage, after some weeks, will be found highly advantageous.

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* Practical Observations, p. 58.

CHAPTER XVIII.

CAULIFLOWER EXCRESCENCE.

327. As the disease now about to be described is well known by this name, which was given to it by Dr. John Clarke,[*] and retained by his brother Sir C. Clarke,[†] it would only occasion confusion to change it, although it is not the most appropriate.

The French authors, Levret and Harbiniaux, describe a malignant excrescence under the name "vivaces," and Dr. Gooch conceives this to be nothing but the "cauliflower excrescence." He considers it to be the disease which in other parts is called 'fungus hæmatodes.' Boivin and Dugès[‡] object to this opinion, that these tumors are too solid, and not simply vascular. Mr. Hemming seems inclined to take part with Dr. Gooch. Dr. Hooper[§] quarrels with the term given to the disease, and with some reason; but having described 'cephaloma,' he says that cauliflower excrescence is nothing but "polypoid cephaloma," in which he is surely wrong; at least, if we compare his descriptions with those of Sir. C. Clarke, it is evident that they are describing two widely different diseases.

Without entering further into disputes about names, I shall endeavour to give an accurate account of the disease. It consists of a morbid growth from a part, or the whole, of the circumference of the os uteri, and, less frequently, from the surface of the uterine cavity. It is met with in females of all ages, married or unmarried, without regard apparently to temperament, habits, or residence. Still it is not so frequent as this description might lead us to expect. "When we see one case of cauliflower excrescence, we see ten, or even twenty, of common polypus, and fifty of carcinoma, or malignant ulcer of the uterus."[‖]

328. The *causes* are very obscure: it cannot be considered as the result of injury to the cervix by concussion or by labor, since it occurs both in women who have never borne children, and in virgins. Neither can it be considered as the result of excessive coition or of syphilis, for, though it does occur in prostitutes, it is not more frequent in them than in other females. Sir C. Clarke seems to think the disposition is

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[*] "Transactions of a Society for Improvement of Medical and Surgical Knowledge," vol. iii. p. 321. Edin. Medical and Surgical Journal, vol. xviii. p. 480.

[†] Diseases of Females, vol. ii. p. 57.

[‡] Diseases of the Uterus, p. 293.

[§] Morbid Anatomy of the Human Uterus, p. 16. See also Duparcque: Traitè theorique, &c. p. 85; Lisfranc: Mal. de l'Uterus, p. 364.

[‖] Gooch: Diseases of Women, p. 309.

connate, and that it only waits for a more abundant vascular circulation to become developed.

329. *Pathology.*—The tumor is highly vascular, and of a bright flesh color, with a slightly granulated surface, or a smooth surface, upon which are numerous small projections. The structure is tolerably firm; but if roughly handled, it bleeds. It is covered with a very fine membrane, which secretes the watery fluid which is discharged so copiously. All attempts to inject the tumor from the uterus have failed; which seems to controvert Sir C. Clarke's opinion, that it really consists of a congeries of vessels; but, after death, or the application of a ligature, the tumor dissappears, and nothing but a small mass of loose flocculi can be discovered. Out of several cases, Sir Charles Clarke only succeeded in obtaining one preparation. Generally speaking, it is attached to the circumference of the os uteri, more or less entirely. Clarke indeed never saw it otherwise, but Gooch and others have found it growing from different parts of the cavity. It is seldom discovered until it has attained some size, and it may go on increasing until it protrudes through the external orifice. Its bulk is a good deal affected by the dilatability of the vagina: when this canal is narrow and rigid, the morbid growth is restrained; but in married women who have borne children, and in whom the vagina is loose and distensible, it grows to a large size. The disease appears limited to the uterus; the vagina is found perfectly healthy. If it be removed, it grows again in a comparatively short time, and in this consists its malignancy. If the speculum be used, we discover a tumor of varying size, composed of small irregular globules, collected into masses, projecting unequally, and of a bright red color. Some of the smaller granules possess a certain degree of transparency, as Dr. Montgomery has observed. The entire tumor is covered by a firm membrane, by which the watery discharge is secreted. In some cases the tumor is more dense, and enough may be obtained after removal to serve for a preparation, and for the purpose of an examination. This increased density Dr. Montgomery believes to be "produced by the infiltration of blood and lymph into the cellular and laminated structure, which enters so largely into the constitution of these growths. In this condition, such portions of the morbid growth do not, and indeed cannot collapse, as they otherwise would when separated from its attachments; and I may observe, that it is only in this state that specimens of the disease can be preserved in a museum." Dr. Anderson of Glasgow has published a very minute examination of the structure of the cauliflower excrescence, to which I beg to refer my reader.*

Dr. Simpson states, "I submitted some very thin slices from the surface of the section of the tumor to a powerful microscope in the possession of Dr. John Reid: it was seen to be composed of a number of cells, arranged in some places in groups, in others in irregular lines. These cells contained each a large nucleus, and the nucleus enclosed several large nucleoli. It may be interesting to state, that none of the caudate or spindle-shaped bodies, described by Müller as often existing in morbid cephaloid structures, were seen in any section examined."*

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* Dublin Journal, vol. xxvi. p. 1102.

Let me add an extract from Mr. Safford Lee's work on the intimate structure of these tumors. He says, "on examining a portion of the tumor taken away in Anderson's case, the granulations appeared to be covered with a fine membrane, producing a shining appearance, and small vessels were distinguished ramifying over it. When a portion was squeezed between the fingers, the substance became pulpy. Under the microscope, the lobules were found to be covered individually by epithelial scales, resembling those of the mucous membrane; and each was composed of nucleated cells, with here and there a blood-vessel ramifying in it, but the tumor was not apparently vascular. The edge of the lobules with epithelial scales appeared as if impacted one upon another; beneath which, from its circumference, where the cells were much compressed, to its centre, cells became gradually developed. There was no appearance of fibrous tissue, nor any of the caudate cells indicating cancer. This, then, was the result of a careful examination of a part of this tumor removed during life by Dr. Richard Quin and myself. The following is a description of a portion examined in the same way after death. When a piece of the tumor, the only remains of which was in small detached clusters, was taken and placed in water, it appeared to be made up of a number of villi, apparently attached to a central substance of more firm consistence. It was composed of nucleated cells of large size, some circular, some oval, and others elongated oval; these contained a quantity of granular matter, and a well-defined nucleus, which appeared to contain a cavity filled with a quantity of granular matter. The two together had the appearance of a cell within a cell, or a compound cell. These cells were connected by fine filaments like cellular filaments. From this examination we conclude that the tumor is composed entirely of cells, and that these are covered with an epithelial membrane; also, that it was a simple structure, and not malignant.†

Dr. Renaud, however, has arrived at the conclusion, that the disease is a modification of encephaloid, consisting of tufts of pedunculated papillaries, the interstices of which are filled up with the cells proper to encephaloid products.‡

Dr. Eben. Watson believes it not to be malignant, and mentions as

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[*] Edinb. Med. and Surg. Journal, 1841.

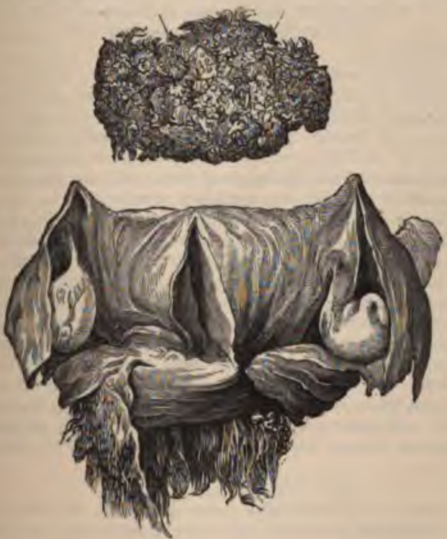
[†] On Tumors of the Uterus, &c. p. 84.

[‡] Medical Gazette, June 18, 1847.

points of difference, its slower growth, the age of the patients, the average being æt. 37, the absence of cancerous cachexia, and the absence of pain and of the true cancer cell.*

Thus we find that there is still a doubt as to the character of these growths; whether their vitality depends, as Sir C. Clarke thought, upon their power of reproduction after removal, and the hemorrhage to which they give rise, or whether they are in themselves malignant.

The conclusion to which I have arrived is, that the primary morbid growth is not cancerous, but is of that kind which by Lebert and Bennet has been termed cancroid, but by Hannover, more correctly, epithelioma, and in which the nucleus is small in relation to the cell; but that it may probably become the seat of cancerous deposit. Further, I am inclined to think that the secondary growth, after the first has been removed, may be of a cancerous character; and this is borne out by several cases I have seen. I may add, that in two cases I saw lately, the cauliflower excrescence was accompanied or followed by what appeared to be a cancerous tumor growing from the side of the pelvis, and which itself proved fatal in one, if not in both cases.



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* Edinburgh Monthly Journal, Nov. 1849.

330. *Symptoms.*—The first symptoms which attract the attention of the patient is an unusual moisture about the external parts, and which soon assumes the appearance of a copious watery discharge from the vagina.* This discharge sometimes becomes enormous, wetting a prodigious number of napkins in the course of the day, and acting as a drain on the patient's constitution. But this is not all, nor indeed is the patient sufficiently alarmed to seek for medical advice, until this discharge is observed to be streaked with blood. By and bye, more profuse hemorrhages occur, even to an alarming extent, brought on by sexual intercourse, or by the evacuation of hardened fæces, or without apparent cause. An examination will also cause flooding. During the intervals of the hemorrhages, the watery discharge goes on, and the effect of both is a fearful inroad on the constitution. Anemia, with all its secondary attacks, is the result. The stomach and bowels soon get disordered, the various symptoms of dyspepsia appear, the patient may become anasarcous, or effusion into some of the serous cavities may take place, and of this the patient generally dies. Vomiting occurs occasionally, and temporary loss of vision has been noticed. As the progress of the disease is rapid after the setting in of the hemorrhage, and as the patient dies of loss of blood, or of its immediate consequences, and not of disease properly so called, very little emaciation takes place.

If a *vaginal* examination be made at any stage of the disease, a tumor having the sensible characters already mentioned, will be found in the vagina; and in most cases, its insertion into the lip of the os uteri can be traced. It communicates a feeling very like that occasioned by touching a portion of the placenta on its uterine surface. The examination does not give pain, as the tumor possesses no sensibility.

An examination with the *speculum* merely adds to our previous information a knowledge of the color of the tumor, which is a bright flesh red; and it more distinctly reveals the granulated surface.

331. *Diagnosis.*—"I do not believe that any man can tell infallibly by touch, whether a tumor in the vagina is a malignant excrescence, which is to grow again; or a benign one, which, if removed, will never return." Probably Dr. Gooch is not far wrong, at any rate it must be very hazardous, judging by the touch alone, to say that a tumor is malignant; but in these cases we are not now left to the touch alone—it is quite easy in cauliflower excrescence or cancer to remove with the knife or scissors a minute yet sufficient portion of the tissue for examination by the microscope, which will at once shew the difference between the former and the varieties of the latter.

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* According to the extensive investigations of M. Marc d'Espine, a *watery* discharge is peculiar to the *uterus*, he having never met with it in all the cases of *vaginal* leucorrhœa he examined. This observation increases the value by limiting the frequency of the symptom.

It may be generally distinguished—

1. From *fibrous tumors and polypus*, by its greater softness, by its rougher granulated surface (they being most frequently smooth), by its bleeding when touched, and by the absence of a pedicle.

2. From *the fungous surface of a cancer*, by the tumor being distinct, soft and moveable, by its insertion into the lip of the os uteri, and by the absence of cancer cells under the microscope. The constitutional symptoms are those arising from anemia, and not from the irritative fever of cancer.

3. From *the edge of the placenta*, by the absence of the signs of pregnancy; but should pregnancy and cauliflower excrescence co-exist, the diagnosis might be very difficult. The state of the os uteri, and the locality of the placental souffle, might enable us to come to a just decision.

332. *Prognosis.*—From the severe floodings which recur at intervals, and from the obstinate reproduction of the tumor after excision, the prognosis is very grave; the disease almost always ending fatally. The prognosis is more favorable, according to Sir C. Clarke, when the tumor arises from only a part of the os uteri, than when it occupies the whole circumference. Very few cases of cure are on record: Boivin and Dugès mention two that recovered after excision of the cervix, Colombat one, Dr. Montgomery one, and Dr. Simpson one. A case which I treated by deep cauterization, after the removal of the excrescence by ligature, continued well two years after the operation, and may be so still; but I have not seen the patient lately. Dr. E. Watson of Glasgow states that of nine cases treated by incision, 5 were cured, one doubtful, three died. Of seven treated by ligature, the disease recurred and proved fatal in six.

333. *Treatment.*—It is very questionable whether the progress of the disease can be arrested, except by excision. Dr. Gooch evidently doubts this, but Sir C. Clarke says he succeeded in two cases by the use of astringent injections. By way of derivative, he recommends cupping the loins, by which means, he says, the watery discharge will be diminished. This, however, should never be done when the patient is much exhausted, or when œdema is present. Benefit is also derived from sponging the loins and vulva with cold water, and from injections of cold water into the vagina and rectum. More good may be expected from the use of astringent injections,* but great care must be taken

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* The following are the formulæ of some of the astringent injections recommended by Sir C. Clarke:—

"℞. Zinci sulphat. ʒiss.
Aquæ rosæ, ℥iv.
Aquæ distillat. ℥xvi. M.

℞. Aluminis, ʒiii.
Aquæ distill. ℥xv.
Mucil. Acaciæ, ℥i. M.

not to introduce the pipe of the syringe too far, as, if it come in contact with the excrescence, it may cause hemorrhage. If the tumor fill the vagina, Sir C. Clarke suggests that the astringent lotion should be poured into the vagina, the patient lying on her back with the hips raised; or, if the excrescence have passed through the external orifice, lint dipped in the lotion must be kept constantly applied. The patient must live altogether apart from her husband: she should constantly preserve the recumbent posture, and her diet must be mild and nutritious, without wine or stimulants. Mild laxatives should be given, so as to prevent the accumulation of hard fæces, the evacuation of which is frequently attended with a discharge of blood.

334. If, as is to be feared, this treatment do not succeed in diminishing the tumor, and arresting the hemorrhage, we have no resource but the ligature; nor is it an objection of any force, that the excrescence will grow again rapidly; we know that the patient must die if left alone, whereas the operation, if it do not cure, will at any rate retard the fatal event. Any of the ligatures I mentioned, when speaking of the removal of polypi, may be applied with either Levret's or Gooch's canula. Two or three days will suffice for the separation of the tumor. After this, it is usual to throw some astringent solution up

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℞. Infus Lini. ℥xv.
Aluminis, ʒii.
Tinct. Kino. ʒi. M.

℞. Cupri Sulph. gr. x.
Aquæ flor. Sambuc.
Mist. Camph. ā ā ℥vi. M.

"Solutions of the mineral astringents in decoctions of astringent vegetables constitute applications of great power,—as

℞. Cort. granat. contus. ℥ss.
Aquæ distillat. ℥xiii. Coque per sextam partem horæ cola, dein adde liquori colato aluminis, ʒii.

℞. Gallarum, ℥ss.
Aq. dist. ℥xviii. coque ad ʒxvi.
Liquoris colati, ℥xvi. et adde
Spirit. roris marini, ℥ss.
Aluminis, ʒiii. M.

℞. Decoct. querci, lb. i.
Tinct. Catechu, ℥ss.
Aluminis, ʒii.
Zinci sulph. ʒi. M."

Clarke on Diseases of Females, vol. ii. p. 101.

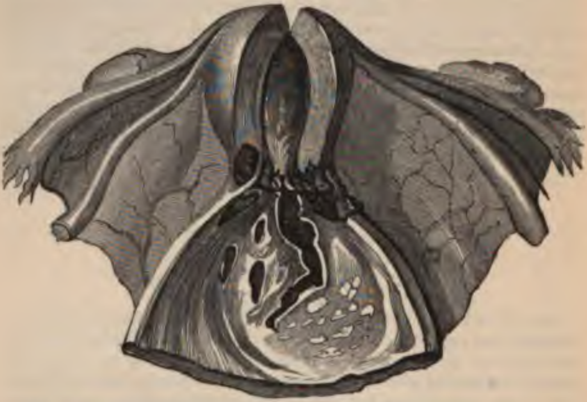
to the os uteri, in order to check the disposition to reproduction. I have tried the free application of a strong caustic (muriate of antimony or nitric acid,) to the spot from which the tumor was removed, and with complete success. The use of the speculum enabled me to apply the caustic exactly, without the slightest injury to the neighbouring parts. I am quite satisfied that the best plan is either to produce a deep eschar by caustics on the spot from which the tumor grew, or to include within the ligature a sufficient portion of the cervix uteri, as practised by Dr. Montgomery, or to remove the portion by the scissors, as in Mad. Boivin, Professor Simpson, and Dr. Mackintosh's cases. I prefer applying the ligature for twenty-four hours, and then excising just below it. The operation is very easy if the uterus be gently drawn down by Museux's forceps. Dr. Simpson placed the patient on her face, with her legs hanging down over the edge of the bed, for the greater safety and convenience of cutting from behind forwards. I found the ordinary obstetric position sufficiently convenient. For some time after the operation, astringent injections should be used, and caustic if necessary. Great care must also be taken to avoid every possible cause; local and general stimuli should be avoided, and the diet of the patient carefully arranged.

CHAPTER XIX.

CORRODING ULCER OF THE UTERUS.

335. WHEN describing "Simple Ulceration of the Cervix Uteri," a reference was made to another species of ulceration, distinguished by its extent and malignancy, and which, on this ground, has been frequently confounded with cancer, from which it is essentially different. It has been noticed from time to time by different authors, but without any very clear comprehension of its peculiarities.

The name of "corroding ulcer of the os uteri," was first applied to this form of malignant ulceration by Dr. John Clarke of London; and to him and to his brother, Sir C. Clarke, Bart., we are indebted for the best account we possess of it. Dr. Baillie has given a very succinct and accurate description of it. He says, "it is not unusual for an ulcer to be formed in the uterus, of a very malignant nature. This is most apt to happen to women at the middle period of life, or at a more advanced age; but it sometimes happens in women who may still be said to be young. The ulcer generally begins in the cervix uteri; and the uterus is at the same time somewhat harder and larger than in the natural state. It does not, however, grow to any considerable size. The ulcer spreads from the cervix into the fundus uteri, and it is not unusual to see the greater part of the fundus destroyed with it, and the rest changed into a tattered ulcerated mass. The ulceration is not always confined in its boundaries to the uterus, but sometimes spreads into the neighbouring parts, as the vagina, the bladder and the rectum; making communication between them, and producing dreadful havoc."* We shall find, however, that there are some points which seem to have been passed over too lightly by these authors, and others which are scarcely consistent with more extended observation. The disease attacks females of the lymphatic temperament especially, and generally about the period of the cessation of the menses, or soon after. Sir C. M. Clarke says that he "does not recollect having met with any instance of the disease before the age of forty." I have, however, seen it at a much earlier period.



336. *Symptoms.*—It is frequently preceded by occasional pain or uneasiness in the pelvis, a sensation of heat internally, and by whites; but in other cases there are no precursory symptoms; and the attention of the patient, and her medical attendant, is first directed to these organs by a profuse hemorrhage, which is often mistaken for an irregular recurrence of the menses. If we make an examination at this period, we discover ulceration of the cervix uteri to a greater or less extent, with a rough granular surface, which may be insensible to the touch, slightly tender, or very irritable and painful. Sir C. M. Clarke observes, "when a finger introduced into the vagina is made to pass over the ulceration, the patient does not complain of pain; she does not suddenly shrink from pressure, as when carcinomatous ulceration

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* Wardrop's Edit. of Dr. Baillie's Works, vol. ii. p. 323. See also Ruysch, Obs. 12. Davis's Obstetric Med. vol. ii. p. 745.

is present; but if asked what sensation she experiences, she will commonly reply, that she has a sense of soreness."* That this is true of many cases, there is no question; but that there are exceptions, so marked as to negative the use of this sign as a guide in forming our diagnosis, is proved by cases which have occurred to myself; and, on the other hand, several authors have shown satisfactorily, that we may have true cancerous ulceration without pain or tenderness on examination per vaginam. The situation and direction of the ulceration will vary in different subjects. *The remaining portion of the uterus is scarcely at all enlarged, and the contents of the pelvis are free and moveable.*

The hemorrhage may cease for some time, but as the ulceration spreads, it will return at intervals through the whole course of the disease; less frequently, however, and in smaller quantity, towards the conclusion. It has appeared in some cases to relieve the pain for a short time, and to suspend, in a slight degree, the progress of the complaint. During the interval of the 'shedding,' a profuse discharge takes place from the vagina, but of a totally different character from the whites which precede the attack. It is thin and ichorous, and generally of a very offensive odour; it is worthy of notice, that this odour is very much less perceptible after death than before. I remember a case, where the peculiar fœtor was perceptible immediately on entering the hall-door of the house, and almost insupportable in the apartment of the patient, during her sickness; and yet when the uterus was removed from the pelvis, it had almost entirely lost the peculiar odour. Can it be that the odour is the result of a secretion of a fœtid gas from the ulcerated surface? The color of the discharge varies from a light straw color to a very dark brown; occasionally, but rarely, it resembles purulent matter.

Soon after the disease has developed itself, we find the patient complaining of weakness, weight, and pain in the back; the latter sometimes extending to the loins, or round the lower part of the abdomen. The character of the pain is by no means uniform: sometimes it is described as lancinating, resembling a knife running into the back; at others, burning like a hot iron. In a few of the cases that I have seen, no pain whatever was experienced from the commencement. The great weakness of the back, however, was present in all. Of course, so grave an attack cannot occur without severely affecting the constitution. The patient becomes emaciated; the appetite diminishes; there is occasional sickness of stomach; the bowels are irregular; the pulse is quick and small; the skin becomes dry and sallow, and a low fever sets in. From this time the disease advances with variable rapidity; in some cases it makes rapid progress; in others, as Sir C. M. Clarke observes, it may continue for years without extinguishing life.

If we examine *per vaginam* occasionally during the progress, we

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[*] On Diseases of Females, vol. ii. p. 195.

shall find the ulceration extending either circularly, or on the anterior or posterior surface of the uterus, and at length, in the latter cases, penetrating the bladder or rectum.

By and bye the discharge is augmented, the fever increases, and the patient loses all her flesh; the features are sharpened, and the eyes sunk; the skin dry, or perhaps moist and flabby; the appetite ceases; dyspepsia is constantly present; the bowels are constipated, and their evacuation causes severe pain. The distress of the patient is often increased by excoriation of the vulva, caused by the acrid discharge. Ultimately the patient either sinks from exhaustion, or is carried off by peritonitis, from the extension of the ulceration to that cavity, or by hemorrhage. The latter termination is, however, very rare.

337. A *post mortem* examination reveals clearly the nature and extent of the disease. The uterus is found more or less destroyed by ulceration, which sometimes extends itself circularly, so as to destroy the cervix and part of the body completely, leaving the remainder suspended by the ligaments, and unconnected with the vagina, except by the surrounding cellular tissue; in other cases, it attacks the anterior or posterior wall of the uterus only, with the neighbouring portion of the vagina, and the bladder or rectum. If the bladder be perforated, the vagina will be found more or less coated with matter deposited from the urine: if the communication be with the rectum, fæcal matter will be found in the vagina: I have never seen a case in which the bladder and rectum were both perforated. It is important to remark, that there is no deposition of new morbid matter either in the uterus itself or in the neighbouring parts, and in some cases I have remarked that the destruction was much less than I had anticipated. The portion of the uterus which remains undestroyed is slightly swoollen and vascular.

Although from the nature of the changes which have taken place we do not perhaps discern indications of the presence of inflammation as the primary disease, it is possible that such may have been the nature of the first attack; but what were its characteristic marks or when it acquired its malignant character, it is difficult to say. Neither is it easy to explain why ulceration should attack that part of the uterus first, which possesses the lowest degree of organization; or why the hemorrhages should be more frequent, whilst the ulceration occupies the least vascular portion of the organ.

338. *Diagnosis.*—1. I have already alluded to the similarity of this disease to *cancerous ulceration.* Both commence about the same period—at the cessation of the menses; either may give rise to lancinating pain, to a sensation of burning, or to no pain at all; to hemorrhages; to offensive discharges; to emaciation; to fever, and both generally terminate fatally. How then are we to distinguish them? Sir C. M. Clarke lays great stress upon the character of the pain as a means of diagnosis: "It appears (he says) that pain of an intense and

acute kind is not a character of the corroding ulcer of the os uteri;" and he states this as differing remarkably from the lancinating pain of cancerous ulceration, "which invariably attends the complaint." A reference to many cases of cancer uteri on record will show that the latter assumption is incorrect; and amongst the cases of corroding ulcer of which I have taken notes, I find that one had suffered no pain from the beginning of the attack; others complained of burning pain; and some of severe lancinating pain. We cannot therefore attach much value to this test; nor is the tenderness on examination more available. Nothing conclusive is to be gathered from the period at which the hemorrhages occur, nor from their extent. The other symptoms are too much alike in both diseases, to afford us any assistance. Speaking very generally, I am inclined to think that there is somewhat less amount of pain in corroding ulcer than in cancer uteri; that there is less febrile action; that the dyspepsia is less tormenting, and that the emaciation is not so excessive. But these are very slight differences in degree, and of very uncertain occurrence; they cannot, therefore, be depended upon.

The true ground of diagnosis, and the marked distinction between these two formidable complaints, is discovered by a *vaginal* examination. In cancer uteri, there is extensive deposition into the cellular membrane and glands between the vagina and rectum, and between the vagina and bladder, as well as into the substance of the uterus itself, connecting them so as to form one large mass, and *rendering the whole immoveable:* the finger on being introduced into the vagina, finds *very little space*, and no power of *moving the parts with which it comes in contact.* Whereas, in corroding ulcer, no deposition having taken place, *the uterus can be moved by gentle pressure*, and part of the pelvic contents having been destroyed by ulceration, *there is more space than usual in the cavity.* In addition the finger should be introduced into the rectum, and a very careful examination made of the condition of the vagina, and of the surrounding interspaces: as in a case I had recently an opportuntiy of seeing, through the kindness of my friend Dr. O'Ferrall, of St. Vincent's Hospital, there was extensive carcinomatous deposition around the vagina and neck of the bladder, but not implicating the uterus, which was of the natural size, and moveable. This case illustrates the value of the physical signs I have insisted upon, whilst it impresses upon us the necessity for careful investigation, and shows the difficulties which are occasionally met with. It is, moreover, a rare case, as the morbid deposition generally commences in the uterus. I may add, as an evidence of the difference between the two diseases, obtained by inspection after death the fact that in cancer uteri, scirrhous depositions are found in other organs, as the lungs, liver, &c. but none in cases of corroding ulcer.

2. From *simple ulceration*, it may be distinguished by the greater extent of the mischief, the aspect of the ulcer, the fœtid discharge, the severe pain, and the malignant character of the disease.

339. *Prognosis.*—Sir C. M. Clarke, in his admirable work, seems to expect little more than being able to delay its fatal termination, and this not entirely from the intractable nature of the attack, so much as from the advanced period at which it first comes under our care. Upon the extent of the ulceration, its effects upon the neighbouring viscera, and upon the constitution, our prognosis must be founded. Under any circumstances, it is a very dangerous disease, and but little hope can be held out of permanent cure.

340. *Treatment.*—The remedies which should be employed will of course vary according to the stage of the disease. Should we be consulted before any breach of surface has taken place (which is seldom or never the case), Sir C. M. Clarke advises the loss of blood from the neighbouring parts, by cupping, or the application of leeches, to be repeated, if necessary. Hip-baths may also be serviceable at an early period. But if ulceration have set in, are we then to consider the patient altogether beyond our reach? Should we not be justified in excising the cervix uteri, if the ulcer have not spread to the body? In some cases, this might be considered as affording the patient another chance of life, and consequently might be advisable; but, as will be seen in the next chapter, the results of this operation are not such as to excite any very sanguine expectations of benefit. It would be quite useless, if the body of the uterus have become engaged. In such a case, we have a remedy which may possibly be useful: I allude to cauterization. Caustic injections may be employed, or the ulcer touched with caustic, by means of the speculum. I have applied nitric acid, muriate of antimony, chloride of zinc, caustic iodine, &c. in several cases, and have found that although it was impossibe to get the ulcer to heal, yet its progress could be arrested, the hemorrhage stopped, the pain relieved, and the discharge moderated. In one very severe case, life was, I firmly believe, prolonged by these means for three years; and in another no advance was made by the disease for two years, although the ulcer continued unhealed. The frequency of the application must be regulated by the hemorrhage or pain; it may be necessary once a week, or once a month, and I think it desirable to interfere as seldom as possible, lest the mechanical irritation should do mischief. An occasional blister to the sacrum or an issue, I have found a very useful concomitant. I have found temporary benefit from vaginal injections, of nitrate of silver in advanced cases, when the speculum could not safely be used; they assuaged the pain, and deprived the discharge of its fœtid odour. Ten, twenty, or thirty grains may be injected twice a-day, dissolved in two or three ounces of water.

If these remedies fail to arrest the progress of the disease, or if from peculiar circumstances they are inadmissible, we can only hope to palliate the more distressing symptoms. Sedatives, such as opium, hyosciamus, belladonna, &c. may be given to alleviate the pain. Astringent injections may be employed to check the hemorrhages; and mucilaginous or aqueous ones to cleanse the vagina from the discharge, and to prevent excoriation. I have found Indian hemp most valuable in arresting the hemorrhage in this disease, in doses of five drops three times a-day in water. To a certain extent it also appears to act as an anodyne. The utmost cleanliness should be observed, and the external parts should be washed two or three times a-day, with tepid milk and water. The bowels should be kept free by mild purgatives or enemata. The dyspepsia will be somewhat relieved by aromatic mixtures, or a combination of rhubarb and blue pill.

The diet should be nutritious and bland; but stimulants, except in very moderate quantities, ought to be avoided, as likely to prove injurious, and to induce recurrence of the hemorrhage.

341. In the year 1843, a case of corroding ulcer presented itself at the Western Lying-in Hospital, which probably commenced during pregnancy, but was not discovered until labor had set in. I shall quote the case shortly from my note-book, as it seems to me peculiarly interesting.

"Mrs. Sheeran, æt. 40, entered the Hospital, April 1, 1843, at 1 P. M., in labor of her eighth child. She stated that she had been in active labor for more than twenty-four hours. On admission, the pains were strong and forcing. On examination, I found the cervix nearly destroyed by irregular ulceration, which had extended more deeply into the substance of the uterus posteriorly. There was very little, if any, thickening of the parts, nor were they unusually hard: there was no deposition into the pelvis. The discharge was profuse, and very fœtid; and she stated that she had been subject to the same kind of discharge, with acute pain, for *at least* five months. The head of the child was pressing at the os uteri, but the pains seemed to have no effect in dilating the orifice. Her countenance was that of a person suffering from malignant disease. She continued in the same state until 8 P. M. when a consultation was held as to the propriety of interfering, but before any thing was decided, a few very great pains drove the child into the world. It was putrid. The placenta was expelled immediately. The patient seemed much relieved when it was over: there was neither fainting nor cramps, the pulse was quick (as from the beginning), but firm. For some days the patient seemed rather improving. Pulse about 130, but steady; discharge intolerably fœtid. Slight tenderness, but no swelling of abdomen. Thirst, and foul tongue. On the fourth day after delivery, however, the pulse became very quick and weak; the abdomen was moderately swollen, and rather tender; the skin clammy, and of a dirty color; face anxious, &c.; in short it was evident that the patient was sinking; and on April 6, she died.

Post-mortem examination, twenty hours after death.—Great emaciation; abdomen swollen and tympanitic. On laying open the peritoneal cavity, we found a moderate effusion of yellow serum: the intestines and omentum were every where covered with lymph, and glued together by it. The serous membrane underneath was vascular in many parts. The uterus was of the usual size five days after delivery. On its left side, below the broad ligament, were some clots of blood, and a small quantity in the cavity of the pelvis. Posteriorly, at the junction of the cervix with the body of the uterus, there was a transverse rent, about an inch long, corresponding to the part most deeply destroyed by ulceration. The substance of the uterus was perfectly healthy; the cervix (as we had learned from the previous examination) was nearly destroyed by irregular ulceration, but *in no part was there any foreign deposition whatever*. I have since seen another case of this kind. The patient became pregnant after I had seen her and pronounced upon the nature of the disease, and she died in the country immediately after delivery.

Upon these cases I would remark—1. That, as far as I know, they are the only cases on record of corroding ulcer coincident with pregnancy and parturition, unless those described by Mad. Lachapelle and other French writers, as cancer, may have really been of this kind. Whether the disease commenced before impregnation or afterwards, in the first case, I cannot be sure; but as far as I could collect, I should think it had existed five or six months. 2. It is worthy of notice, that the rupture, which evidently occurred during labor, was unattended with sudden excruciating pain, and was not followed by collapse. 3. That the peritonitis which succeeded, though most extensive, was very faintly indicated by symptoms; the pulse being little changed, the abdomen not swollen till the day before death, and the tenderness on pressure comparatively slight.

CHAPTER XX.

CANCER OF THE UTERUS.

342. This is the most fearful and uniformly fatal disease to which the uterus is obnoxious: it is the most irresistible in its progress, and the least amenable to treatment. It is often met with, generally very marked in its symptoms; and as it is uniformly fatal, abundant opportunities are afforded of anatomico-pathological investigations. And yet if we compare the writings of different persons, and those men of great experience, we shall find many points of interest undetermined, and others, the subject of incessant controversy. Very frequently the description of the disease conveys only a lively picture of the uncertainty of the writer; and so vague indeed is the sense in which the term cancer is sometimes applied, especially by the French authors, that it would be quite impossible to recognize the complaint from their description. Denman fully appreciated the uncertainty of the descriptions generally given: he says, "Of cancer it is to be lamented

we have at present neither a tolerable definition nor a correct history, nor any accurate distinction of the several varieties which are certainly known to exist. Nor is it yet proved whether cancer of any part has any specific quality, according to the structure of the part affected; nor have we, in fact, any other idea than that it is an incurable disease."[*] Very much light, however, has been thrown upon the subject, since the time of Denman, by both French and British authors, especially by the latter; and their more accurate information concerning elementary forms of disease generally, is beginning to be applied to the study of the morbid changes which take place in the uterus. In a recent publication, remarkable as well for its minute accuracy as for its vast range of information, Dr. Copland has thus defined cancer:[†]—"A disease often arising from hereditary predisposition, in the middle or advanced periods of life; commencing with a local hardness, which subsequently softens in its centre, infects the adjoining parts, and ultimately contaminates the frame." This appears to me to be as good a definition of cancer generally as any I have seen, and it applies equally to cancer of the womb. Sir C. Clarke says,[‡] "by carcinoma is meant that disease where there is a tumor near to, or a thickening of, the cervix of the uterus, which tumor or thickening are disposed to ulcerate." Dr. Carswell remarks the impossibility of giving a precise definition of the disease. "It may, however, be said to consist in the formation of deposition of a peculiar substance, which presents great variety of consistence, form, and color; frequently assumes a different arrangement, and possesses a vascular organization of its own: gives rise to the gradual destruction or transformation of the tissues in which it is situated; affects successively or simultaneously a greater or less number of organs, and has a remarkable reproductive tendency."

This disease is frequently met with,[§] though perhaps not quite so often as is supposed, in consequence of too hastily pronouncing indu-

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[*] Midwifery, p. 116.

[†] Dictionary of Practical Medicine, p. 282, art. Cancer.

[‡] Diseases of Females, vol. i. p. 207.

[§] In the "Journal des Connoissances Medicales," for November, 1836, there are some investigations by Mons. S. Tanchou, as to the frequency of cancer. The sources of his information are the mortuary registries of Paris and the "Banlieu." In 1830, there were 351 deaths from diseases of the female genital organs; and of these, 183 were from cancer of the womb.

In 1831, there were	379 deaths, of which	246 were from cancer,
In 1832,	396	230
In 1833,	498	250
In 1834,	436	304
In 1835,	508	285

ration or ulceration to be cancerous. That this is the case with the French, we have the express testimony of a recent writer. It rarely attacks young females, although such cases occur occasionally. It is most common after the period of child-bearing, about the "time of life," either before or soon after the cessation of the menses. Out of 409 cases of cancer of the uterus, quoted by Boivin and Dugès, there were—

Under 20 years of age	12
From 20 to 30	83
From 30 to 40	102
From 40 to 45	106
From 45 to 50	95
From 50 to 60	7
From 60 to 71	4
	409

M. Lebert has given the age of 50 cases: 5 were from 25 to 30; 5 from 30 to 35; 9 from 35 to 40; 8 from 40 to 45; 8 from 45 to 50; 3 from 50 to 55; 5 from 55 to 60; 3 from 60 to 65; 3 from 65 to 70; and one from 70 to 80 years.

Dionis says that out of twenty cases, fifteen occurred between the ages of 40 and 45. Mr. Carmichael mentions a case of a girl who died of cancer uteri, æt. 21. Wigand met with a scirrhus uterus in a girl æt. 14. I saw sometime ago a fatal case of cancer in a woman under 25.

It is said that single women, or those who have had no children, are most obnoxious to its attacks; but this appears doubtful; it is certainly not in accordance with the facts stated by Lebert. Of 37 cases, 3 had no children; 8 had 1; 7 had 2; 4 had 3; 4 had 4; 2 had 5; 4 had 6; 1 had 7; 1 had 8; 1 had 9; 1 had 11 and 1 had 13 children. Females of the lymphatic temperament seem especially obnoxious to its attacks. "MM. Breschet and Ferrus found twenty-three cases of this temperament prominently marked, out of forty-four cases of this disease."

A distinction is made by most writers into cancerous ulcer and ulcerated cancer; in the former the ulceration is the primary affection, and the morbid deposition but secondary; whilst in the latter, the state of scirrhus precedes the ulceration. I shall not found my arrangement upon this, inasmuch as the first species are very rare, and the distinction is without use in practice. Following the course of the disease which, in almost every case, commences by a morbid deposition, without breach of surface, and then after some time ulcerates by central softening, I shall consider separately the two stages of *scirrhus or carcinoma* and *cancer*. Yet as these are but two stages of the same disease, I shall not make two chapters, but under each head of pathology, symptoms, &c. speak first of carcinoma and then of cancer. Since this work was first written, I have met with several cases in which the ulceration preceded the deposition. The first I saw in the Meath Hospital, through the kindness of my friend Dr. Graves. The cervix was ulcerated, and the parts underneath the ulcer slightly thickened. The uterus was quite moveable, without tenderness or fœtid discharge. The uterus gradually enlarged, and became less moveable until it was nearly fixed. The other cases occurred in private practice. The patients suffered great pain; there was fœtid discharge, with occasional hemorrhage; some hectic emaciation. At first the uterus was moveable, the ulcer occupying the rim of the os uteri, and the parts not thickened; by degrees, as the ulcer extended, the parts became more dense and thicker, and the uterus less moveable. In such cases, it appears to me that the progress is much slower than in ulcerated carcinoma.

343. *Causes.*—There can be no doubt that the disease is frequently hereditary, after the examples all have witnessed of mothers and daughters falling victims to similar attacks. Perhaps, however, though the cancerous diathesis may be transmitted, the locality may be undetermined.

Females of the lymphatic temperament appear especially obnoxious to its incursions, and it is certainly much more frequent about the period of the cessation of the menses than at any other time: the anatomical peculiarities, as well as certain menorrhagic attacks which prevail at that time, being evidently favorable to its development. Anxiety and the depressing passions, bad food, exhausting occupations, unhealthy localities, are all enumerated as predisposing causes.

External violence is mentioned by Leake* as giving rise to it, but this may perhaps be doubted. Violence applied to the uterus itself has been assumed as a fruitful cause, and with much more appearance of probability; but even against this there is strong evidence in the fact, that the disease is frequent amongst virgins and those who have never borne children, and also that it occurs at an age when these organs have, for the most part, ceased to be exposed to injury.

Several French authors conceive that it may originate in a syphilitic affection of the constitution; but this point is by no means established.

344. *History and Pathology.*—I. *Scirrhus.* I have already mentioned that several points in the history of cancer are as yet undecided, such as whether it is a disease essential to glandular structure, or whether this limitation applies to primary scirrhus only. It is indisputable that in other parts of the body the ulceration may occasionally precede the cancerous deposition, and the same may occur in the uterus. Again, it is disputed whether it depends upon a depravation of the nervous fluid, or is in reality an hydatid (*hydatis carcinomatosa,*)

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* On Diseases of Women, vol. i. p. 111.

having an independent existence, developed in those parts of the body whose vitality is enfeebled, and the matter of which begins in some degree to be decomposed.* By Broussais and his followers it is, of course, attributed to chronic inflammation. Andral and Copland regard it as resulting from an altered state of nutrition and secretion, terminating in ulceration. Prof. S. Cooper considers it to be constitutional, and not dependent upon the local circulation. Prof. Carswell thinks that the matter of scirrhus exists "not only in the molecular structure, and on the free surface of organs, but also in the blood." He further observes, "We cannot, therefore, limit this seat of the disease to any one tissue, or ascribe its origin to any modification of structure or special organization, as has been done by several pathologists." Dr. Hodgkin has endeavoured to prove, that the presence of a serous membrane having a cystiform arrangement is necessary for the production of carcinoma. Dr. Carswell denies the *necessity* of this, though he admits its occasional occurrence. Cruveilhier regards all organic transformations and degenerations as exclusively the result of the deposition of morbid products in the *cellular element* of organs. He believes that the "*tissus propres*" of organs are incapable of undergoing any organic lesion, except hypertrophy and atrophy.

As to its mode of deposition in the uterus, Sir C. Clarke describes two varieties in the early stage. 1. There is a firm tumor, of a rounded form, springing from the surface of the cervix uteri, or imbedded in it, whilst the other parts of the uterus are perfectly healthy, except that its parietes are thickened as the disease advances, and that its cavity becomes larger than that of a healthy unimpregnated uterus. 2. Instead of any distinct tumor, the whole of the cervix of the uterus becomes larger and harder; and if this thickened part is examined after death by cutting into it, it puts on the same appearance which a regular carcinomatous tumor possesses.†

Some discrepancy of opinion exists as to the part of the womb most frequently attacked *first* by carcinoma. Dr. Burns is rather doubtful about this: he says, "As opportunities are not frequent of examining the womb in the early stage of the disease, and as in course of time it involves parts not at first affected, we have not yet decided what the comparative liability of different parts of this viscus is to the disease."‡ Sir C. Clarke is very decided upon the point; he remarks:—"Carcinoma particularly affects glandular parts; and the cervix of the uterus being the most glandular part of it, is probably the reason why it becomes more liable to this disease than any other part of this viscus." Bayerle and Wenzel agree with Sir C. Clarke as to the fact, but they attribute it to the greater exposure of the cervix to injury. Siebold[*] also considers the neck as the most frequently first attacked. Dr. Blundell observes, "The malignant ulceration of the uterus, it seems, almost invariably begins in the mouth and cervix. Are the glandulæ nabothi the cause of this? Are not the mucous glands in the lip a principal cause why the malignant change attacks this part? Is not the malignant disorganization sometimes observed at the anus, the pylorus, and the valve of the ilium, to be ascribed to the mucous glands there? and are not the glandulæ nabothi, that is, the large and numerous mucous glands in the neck and mouth of the womb, the cause why, in its commencement, the disease usually gives a preference to this part?"[†] Dr. Lee says that "it is not in the glandular structure of the os and cervix uteri that carcinoma generally commences.[‡]

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* Carmichael: Essay on the origin and nature of tubercular and cancerous diseases, p. 49.

† Diseases of Females, vol. i. p. 211.

‡ Midwifery, p. 105

It may certainly commence in any part of the uterus or appendages, but the cervix appears most liable to its attack.

The surface of a scirrhous uterus is unequal, indented, and smooth; it forms an incompressible mass of different degrees of hardness, of varying magnitude, though seldom very large. Scirrhus is further divided into general and partial, according the amount of deposition; and perfect or imperfect, according as the tumor possesses little sensibility or none at all. "The substance of a scirrhous uterus is, when cut into, (says Dr. Baillie), thick and hard; and when its structure is examined, it shows a whitish, firm substance, intersected generally by strong membranous divisions. This is the common appearance of the structure of scirrhus in other parts; and it differs less from the natural appearance of the structure of the uterus, than of any other part of the body."

Dr. Copland's observations are so much to the point, that it would be unpardonable to omit them. Scirrhus, at the commencement, "is distinguished by hardness, coldness, whiteness or paleness, insensibility, and a deficiency of red blood-vessels—a state indicating a low grade of vital endowment of the part." "The scirrhous structure, when fully developed, consists of a firm, hard, rugged, incompressible, and unequal mass, the limits of which are not distinctly defined. Its color is generally of a light grey; and when cut into thin slices, it is semi-transparent. Upon close inspection, it is found to consist of two distinct substances: the one hard, fibrous, and organized; the other soft and apparently inorganic. The former composes the chief part of the diseased mass, and consists of septa, which are opaque, of a paler color than the soft part, unequal in their length, breath, and thickness, disposed in various directions, sometimes forming nearly a solid mass;

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[*] Frauenzimmerkrankheiten, vol. i. p. 623.

[†] Diseases of Women, p. 162.

[‡] Cyclop. of Pract. of Medicine, vol. iv. p. 394.

in other instances, a number of cells or irregular cavities, which contain the soft part. This latter is sometimes semi-transparent, of a bluish color, and of the consistence of softened glue; at other times, more opaque, softer, somewhat oleaginous, and like cream in color and consistence. The fibrous structure seems to be the cellular or proper tissue of the part, in a state of induration and hypertrophy; assuming, in consequence of its increased density and bulk, an appearance similar to the fibrous or fibro-cartilaginous structure; whilst the softer portion, contained in the meshes or cells of the former, appears to be merely a morbid secretion poured out by the vessels nourishing the organized fibrous tissue, and is probably the exhalation of the part, either secreted in a modified state, or accumulated or changed by the disease of its containing structure. If this view be correct, the former or organized part may be considered as merely resulting from an altered state of nutrition in the seat of disease; whilst the latter, or inorganized portion, may be viewed as proceeding from a morbid secretion; the diseased structure thus being a product of a disordered state of both the nutritive and secretive functions, most probably in consequence of alteration of the vital influence, excited by the ganglial nerves on the capillaries of the part." "The proportion of each of these two substances, and the modes of their distribution vary very considerably in different scirrhous masses." "At the commencement of scirrhous disease, the structure of the tissue or organ (in this case, of the womb) in which it is seated, preserves for some time its aspect and color, being changed merely in volume and density; as the disease advances, the proper tissue of the organ becomes more obscure, and verges nearer to that already described."* M. Hecht of Strasburg analysed 72 grains of scirrhous uterus, and found it to consist of 15 grains of gelatine, 10 of fibrine, 10 of oily or fatty matter, and 35 of water and loss.

We should expect that considerable light would be thrown upon the intimate characters of cancer by microscopic investigations, and so no doubt there will be, but at present there is a difference of opinion as to the specific character of the cancer cell. M. Lebert† believes that it is possible to recognize cancerous tissue by the microscope, in consequence of the peculiar cell, with its nuclei and nucleoli. The typical cancer cell is a little regular sphere, with an elliptical nucleus placed excentrically, occupying the half or more of the interior, and enclosing one or many neucleoli. The form of the cell wall varies, however; it may be oval, elongated, triangular, acute or obtuse-angled, fusiform or pointed at both extremities, &c. &c. He regards cancer as a substitution, not a transformation of tissues, and has divided the varieties into the ancephaloid, scirrhous, gelatiniform or colloid, vascular or hæmatoid, and the melanic. The two former varieties are most common in the uterus.

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* Copland's Dict. of Pract. Medicine, art. Cancer, p. 283.

† Mal. Cancereuses de l'Uterus, p.

Drs. Jones and Sieveking do not agree with Lebert's views as to the distinctive characters of the cancer cell. They observe, "in structure it consists essentially of a blastema or basis substance, more or less advanced in fibre development, in which very various forms of cell growth are embedded."*

345. II. *Cancerous stage.* The state of parts just described may continue for some time without much perceptible change, but, sooner or later, "portions of the scirrhous mass begin to soften, and pass into a state of unhealthy suppuration and ulceration: unhealthy as respects the character and progress of these processes, and their contaminating influence upon the whole frame. The soft, or inorganic substance, resolves itself into a thin ichorous matter, very different from pus; and the disorganization commences generally about the centre of the mass, and extending toward that part of it which is nearest either the surface of the body or any of the natural openings."† In this stage, the disease takes the name of cancer. The breach of surface most frequently commences at the cervix uteri; it may, however, attack other parts of the uterus first. The direction of the ulceration is very uncertain: sometimes the posterior wall, and sometimes the anterior having the precedence. The establishment of the ulceration appears to arrest the morbid deposition into the uterus, as that organ increases but little in bulk, after ulceration has commenced. When the skin covering a scirrhous tumor ulcerates, a fungus, of a cauliflower appearance and hard grisly structure, sometimes proceeds from the surface of the mass. In some cases, ulceration destroys both the fungus and the primary tumor. Cancerous tumors generally contaminate the glands in the vicinity, particularly after ulceration has commenced. In accordance with this statement, we find that the cancerous matter is not only deposited in the uterus, but that after a while, the glands in the pelvis participate in the disease, and in some cases the glands of the groin likewise. Cancerous deposition also takes place into the cellular interspaces among the pelvic viscera, which are in consequence firmly agglutinated together, and perfectly immoveable.‡ The vagina and bladder may also participate in the deposition, and become the seat, subsequently, of malignant ulceration. "I may add, moreover, that under these malignant disorganizations, vaginal and uterine, the *ovaries and tubes* are occasionally attacked with indisputable scirrhus, diffused or tubercular."§

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* Pathological Anatomy, p. 184.

† Copland's Dictionary, p. 284.

‡ Cases of Cancer Uteri, by W. F. Montgomery, M.D. in the Dublin Hospital Reports, vol. v. p. 413 (case 1).

§ Blundell on Diseases of Women, p. 159. See also, Siebold: Frauenzimmerkrankheiten, vol. i. p. 624.

Cancerous matter has been found in the lymphatic vessels leading from the pelvis, in the inguinal glands,* and even in the thoracic duct itself. M. Andral recognised it in the walls of the thoracic duct, and Dr. Hourman‡ detected it free, both in the lymphatic glands, and in the thoracic duct.

It will be recollected, that in Dr. Copland's analysis of scirrhous structure, mention is made of a soft inorganic matter like glue, and the hardened hypertrophied cellular tissue, in the meshes of which the former is deposited. The learned author also observes, that the varied proportions of these constituent parts give rise to the different species of cancer. Of these several have been described by authors, as, for instance, cephaloma,‡ hæmatoma, sarcoma, fungous hematodes, &c.

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* Dr. Montgomery's paper in Dub. Hosp. Reports, vol. v. case 2, 3.

† See his paper on Cancer Uteri, in the Revue Med. Franç. et Etrang. for 1837.

‡ "This disease which has been called the soft cancer of the uterus, consists of an organised, soft, vascular substance, that resembles brain in appearance and feel. The whole of the uterus is sometimes converted into this structure.

"A cephalomatous uterus is generally much larger than a healthy one. The cut surface is of a pale yellowish flesh-color, more like to brain than anything else. To the eye it does not appear very vascular; and when a portion is cut, the knife retains a humid paste or cream-like substance, which oozes also from the cut surface when moderate pressure is applied. The vaginal portion of the uterus is much enlarged in this disease; and the cervix is, in some cases, lost by the enlargement of the body having extended to the very lowest portion. The os uteri is mostly very open or widened; the labia or sides are very soft; and their internal surface, as far as the cavity of the uterus is often ragged."—*Hooper's Morbid Anatomy of the Human Uterus*, p. 15.

"Hæmatoma occurs in the uterus as an organized, soft, vascular substance, resembling solidified blood, with an appearance here and there of spongy and more flesh-like portions.

"When divided, the cut surface of this disease is smooth, like firm coagulated blood, or like the albuminous part of the blood when solidified. Patches of vascularity, here and there, are distinctly seen, and in many parts the structure is fibrous and spongy. The knife is soiled that cuts the disease, and in most instances a humid, paste-like, and somewhat reddish matter oozes from the cut surface when pressed." —*Hooper*, p. 17.

Duparcque evidently regards the dark color as owing to the effusion of blood in the cancerous matter.

Speaking of the varieties of scirrhoma, Dr. Carswell observes, "the

The change from scirrhus to cancer will certainly take place, in the natural progress of the disease, without any special cause; but any irritation or violence applied to the part will probably hasten its progress. For this reason, excessive coition or child-bearing may be followed by very serious consequences. If the patient take cold, and this be determined to the genital system (as weak points are generally attacked), it may issue in the setting in of ulceration somewhat prematurely.

346. *Symptoms.*—These may be divided into the *mechanical*, caused by the bulk of the affected organ, and its relation to surrounding parts; the *physiological*, or those arising from the functional disturbance; and the *pathological*, dependent upon the morbid structure, and the diseased actions going on in it, and extending to neighbouring parts. The first and second class only are prominent in the scirrhous stage of the disease; the whole three, but especially the third, when it is transmuted into cancer. The mechanical symptoms predominate so long as the cancer is a distinct tumor.

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deposit may be collected in numerous points, in the form of a hard, grey, semi-transparent substance, intersected by a dull white or pale straw-colored, fibrous, or condensed cellular tissue, and as such is commonly denominated *Scirrhus.* When it assumes a regular lobulated arrangement, so as to present an appearance similar to a section of the pancreas, it forms what was called by Mr. Abernethy the *Pancreatic Sarcoma.* Again, it may be disseminated uniformly throughout the texture of an organ, which it converts into a solid substance, resembling a slice of raw or boiled pork, and it is then called by the French the *Tissu lardacè.* Lastly, when it presents the appearance of firm jelly, and is collected into masses of greater or less bulk in a multitude of cells, it is the *Matiere Colloïde* of Laennec, the *Cancer Gelatiniforme ou Areolaire* of M. Cruveilhier."

As to the second species of cephaloma and its varieties, Dr. C. remarks that when it presents the appearance of firm coagulable lymph or fibrine, deprived of the red coloring matter of the blood, possessing a uniform, fibriform, or lobuliform arrangement, with a certain degree of transparency and vascularity, Mr. Abernethy gave it the name of *Common Vascular* or *Organised Sarcoma.* If it be uniformly disseminated throughout the texture of an organ, so as to transform it into a substance resembling a section of the mammary gland, or the udder when boiled, the appellation of *Mammary Sarcoma* was given to it by Mr. Abernethy. When it presents an appearance similar in color and consistence to the substance of the brain, it was called *Medullary Sarcoma* by the same distinguished surgeon; *Matière Cerebriforme* ou *Encephaloïde* by Laennec, and *Spongoid Inflammation* by Dr. Burns."—*Carswell on the Elementary Forms of Disease,* art. Carcinoma.

We shall consider the two stages separately:

347. *a. Scirrhus.* The symptoms at first are very slight, and not such as to excite uneasiness; so that considerable progress has generally been made before the true nature of the disease is discovered. Frequently, some unusual irregularity of menstruation is the first symptom which excites attention, though, in many cases, the integrity of this function is long preserved, and in others, it will have ceased spontaneously. Some uneasiness may be felt on standing or walking, and a weight pressing down upon the perineum, as though the womb were about to fall through. Sometimes a degree of annoyance is felt on lying on one side or the other. As the bulk of the deposition increases, so does the mechanical inconvenience: the pressure upon the rectum is distressing, and gives rise to a supposition of piles, and the pressure on the bladder to a frequent desire to evacuate its contents, but seldom to any dysuria. There is often a mucous discharge from the bladder. The weight of the uterus occasions its descent below its natural level in the pelvis. As yet we observe but little pain; there is, it is true, occasionally a lancinating pain through the pelvis, but this is not frequent until just before the ulceration sets in. The mucous secretion, at first, is scarcely increased, as it is some time before the lining membrane of the uterus participates in the morbid action;* but at length we find a considerable discharge of a bland character, having none of the fœtid and acrid qualities so offensive in the discharge from the ulcerated surface. As this stage merges into the next, we may occasionally discern striæ of blood mixed with the discharge, and occurring during a menstrual interval. If the tumefaction of the uterus or pelvic contents be very great, the patient may suffer from œdema of the legs; and in some few cases, the tumor may be felt in the hypogastrium.

If a *vaginal* examination be made, we shall discover either of the two forms of deposition; as far as my experience goes, that one where the uterus is generally and pretty equally affected is the more frequent. The cervix, and as much of the body as we can reach, feels tumified and hard; and the edges of the os uteri, instead of being smooth and even, present one, two, or three deep notches, without any breach of the surface, and not radiating from the os uteri. The os uteri is rather more open than usual, but the lips are rigid, and towards the latter part of the first stage, pressure on the cervix is occasionally painful; it is at this time that we first detect the commencement of that extension of the disease which ultimately involves the whole of the pelvic viscera. Up to this period, the increase in the bulk of the pelvic contents is sufficiently defined, and limited to the womb itself, which is consequently as moveable as its size will permit; but as the surrounding deposition increases, this mobility is diminished, until, in the second stage, the uterus is quite fixed. It should also be mentioned, that when ulceration is about to commence, some part of the swollen and hard viscus may be felt softer than the rest, indicating the part to be first attacked; and this part will be both tender and painful.

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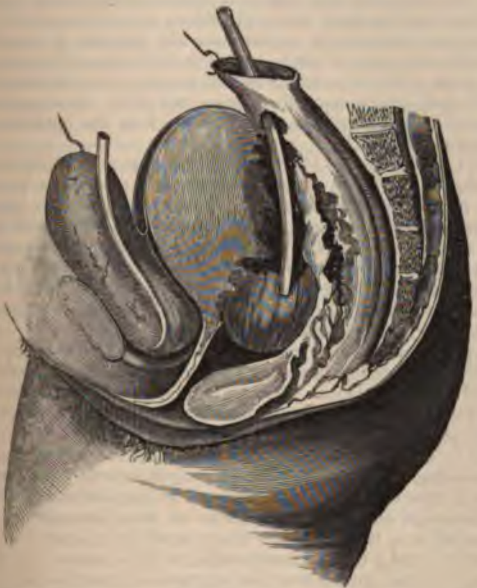
* Nauche: Mal. prop. aux Femmes, vol. ii. p. 589.



If the *speculum* be used, the cervix appears swollen, tense, and shining, sometimes spongy, of a deep red or brownish color. A fluid discharge occasionally escapes from the membrane covering it, in consequence of the pressure.

At an advanced part of this stage, the stomach appears to sympathize with the local distress: the patient loses appetite, becomes dyspeptic, and suffers from cardialgia. Another symptom, not very unusual, is an eruption on the skin, generally of urticaria, which, for the time it lasts, is exceedingly distressing: Sir C. Clarke attributes it to the presence of acid in the stomach.

It is very remarkable that so grave a disease should not preclude the possibility of conception: several such cases are on record;[*] in some of which the child was delivered by the unaided natural efforts, in others, by version, or the forceps. Out of seven cases related by Mad. Lachapelle, four of the mothers recovered from the delivery.

Dr. Oldham has related five cases in which pregnancy existed with open cancer, but whether pregnancy preceded the ulceration is not clear. One was fatal, from rupture of the uterus, the second required craniotomy, and the third died exhausted six weeks after delivery. In a fourth case, he placed the patient under the influence of chloroform at the commencement of labor; and as, from the size of the cancerous mass, it was evident that the child could not pass "*per vias naturalis,*" he performed cæsarian section, and saved the child. Strange to say, the wound healed and the mother recovered from the operation. A fifth died undelivered.[†]

348. *b. Cancer uteri.* How long the first stage may continue, it is impossible to determine; in some patients it may last for years, in others, for a much shorter period; dependant probably upon the constitution of the patient partly, and partly upon the influence of certain causes already enumerated. Drs. Montgomery and Simpson have both related cases in which there was a singular latency of symptoms until an advanced period of the disease; but these cases are rare. I have seen one case in which the patient assured me, that from the beginning to just before the fatal termination, she had no pain.

The pathological change from scirrhus to open cancer is not more remarkable than the alteration and aggravation which are generally observed in the symptoms. There are three new symptoms superadded, which deserve our utmost attention, and these we shall consider first, viz. the pain, the hemorrhages, and the discharges.

349. 1. The *pain.* The character of this severe pain is described as *lancinating*, as though knives were plunged into the body; and so general is this, that it has been proposed as one distinction between this disease and corroding ulcer. There are cases, however, where it is described as a burning pain; others, in which it is not severe or lancinating; and a third class who suffer no pelvic pain at all. When present, it is generally constant, but aggravated by very severe paroxysms, which, commencing in the region of the uterus, shoot through the pubes and loins, and down to the anus and thighs. So limited and yet severe is this about the rectum, that I have had patients in

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[*] Zeppenfeld: Diss. System. casum carcinomatis uteri cum graviditate conjuncti, Berol. 1828. Siebold: De Scirrho et Carcinomate uteri, &c. Mad. La Chapelle: Pratique des Accouchemens, vol. iii. pp. 368, 371. Boivin and Dugès, p. 133. Lancette Française, December, 1836. Lambreis: American Journal of Med. Sciences, vol. v. p. 233.

[†] Guy's Hospital Reports, vol. vii. part ii. p. 426.

advanced stage of cancer, who came to consult me for what they assured me was only "bad piles." This sensation increases as the disease advances, and occasionally is the prominent symptom towards the close of the patient's life. In some cases, the warmth of the bed appears to increase the suffering.

I have mentioned cases where uterine pain is absent altogether, and in some such which I have seen, *distant* pains were all the suffering. I was requested to visit a patient, in consultation with a very intelligent apothecary, whose testimony confirmed the statement of the patient, that she had never complained of pain in the uterine region at all, but from the time that ulceration might be supposed to have commenced, she suffered excruciating pain along the course of the sciatic nerve down to the foot. What was still more curious, she experienced immediate and complete (though, alas, but temporary) relief from the sciatica, by the use of an injection of nitrate of silver, which was ordered for the purpose of destroying the fœtor of the discharge. "But it also happens, not unfrequently, that they become gradually exhausted and debilitated through want of rest, occasioned by terrible pains in the hypogastrium or sacral regions, or in the loins, nates, iliac fossæ, and more frequently, all along the femora, either in the direction of the sciatic nerve, or in the direction of the crural nerve; pains seldom continual, but recurring in paroxsyms, once, twice or three times in a-day, and lasting several hours at each time." "These pains are sometimes so acute, according to MM. Bayle and Cayol, that persons have been known to die of convulsion or delirium, occasioned by cerebral fever."*

350. 2. The *hemorrhages*. These occur at an early period after the ulceration begins; indeed, in many cases, they seem to precede the pain, and are the first occurrences which excite alarm in the mind of the patient. Lebert says that hemorrhage is the first symptom: it existed from the beginning in 28 out of 40 cases. It is frequently mistaken for a return of the menses, by females in whom that discharge has been for some years arrested; and I have known such treated as menorrhagia. I mention this for the purpose of showing the positive duty of making a vaginal examination, in every case when blood is discharged from the vagina, before deciding upon our plan of treatment. The amount of sanguineous discharge varies a good deal in different persons; it is sometimes very large; the quantity of successive discharges will also vary; but one point I have remarked in almost all cases, that the larger floodings occurred at an early stage of the ulceration, and, that subsequently, the quantity lost was less each time, and the intervals greater. The progress of the ulceration appears

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* Boivin and Dugès: Diseases of the Uterus, p. 235. See also case 4 in Dr. Montgomery's paper in the Dublin Hospital Reports, vol. v.

to be arrested, and the pain relieved for a short time after each flooding; but if, in this way, some mitigation be afforded, the weakness resulting from the hemorrhage more than counterbalances the benefit.

351. 3. The *discharge*. Up to the actual commencement of ulceration, the character of the discharge does not vary from that of the usual vaginal secretion, it is merely augmented in quantity; but the moment the organic destruction begins, it is entirely changed. Its odour becomes almost insupportably fœtid, so much so as to constitute a great part of the patient's distress: for, besides proving an annoyance to herself, it almost forbids that degree of personal attention on the part of friends, upon which so much of the solace of a sick bed depends. The color of the discharge varies from a dirty white to a dark brown, green or black; now and then it receives a tinge of color from the admixture of a small quantity of blood; it is most generally a very thin sanious fluid, secreted very copiously, and containing occasionally flocculi of lymph or coagulated discharge.* It is ordinarily acrid, but sometimes much more so than at others, and, in consequence, the inner surface of the labia is very tender, and there is a ring of excoriation around the orifice of the vagina, extending to the anus, and sometimes even down the thighs. This gives rise to incessant itching and soreness of the vulva, and, of course, the distress of the patient is greatly aggravated; it also renders a manual examination very painful. From the same cause, probably, the vulva is liable to a flabby swelling or erysipelatous inflammation.†

After the continuance of the disease for some time, the bladder begins to sympathize; there is a mucous deposition from the urine, and some dysuria, probably owing to a thickened state of the urethra and meatus urinarius. The difficulty is sometimes so great as to require catheterism, an operation calling for great tenderness and tact under such circumstances. At a more advanced period, the ulceration will probably reach either the bladder or rectum, or, very rarely, both. For some days before the perforation of the bladder takes place, there is more or less retention of urine, and consequent dilatation of the ureters, which are found thin, distended, and diaphanous, after death. The urethra, from disuse, becomes greatly reduced in calibre after the rupture of the bladder. The bladder appears to be more frequently affected than the rectum, owing to its greater proximity, and there being less cellular tissue interposed.

The escape of the contents of either viscus is a new and fearful source of irritation to parts already irritated, and an additional distress to the patient and those around her. The involuntary escape of the urine is perhaps the most mischievous, as it runs down to the nates and thighs, and may give rise to excoriation and sloughing of those parts. A very curious change occurred in a patient laboring under this fearful complication. She had been severely excoriated and the whole house was filled with the urinary odour, when without any apparent cause both the irritating and the odorous properties of the urine disappeared and for months she was quite free from both annoyances.

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* Lebert: Mal. Cancereuses, p. 254.

† Burns' Midwifery, p. 105.

Before the destruction of the walls of the uterus, the patient suffers great pain from going to stool, partly owing to the forcing the contents of the abdomen down upon the diseased mass in the pelvis, and partly from the pressure of the fæces in their passage through the rectum.

The information obtained by a *vaginal* examination will vary a little according to the period at which it is made. We shall discover a hard, unequal, *immoveable* mass filling the pelvis, and about the centre a perforation which is the os uteri. This is rather more open than natural, and its borders are thickened and hard. It is also lower in the pelvis than usual. The ulceration may easily be discovered by the loss of substance; it may eat completely round the cervix, so as to destroy it evenly, or the anterior or posterior half alone may be affected, and ultimately the bladder or rectum. The ulcerated surface is rough, unequal, and tender on pressure, and the finger, when withdrawn, is covered with fœtid sanies, and occasionally tinged with blood. In some instances we feel a fungous substance projecting from the os uteri, instead of a depressed ulceration; it is rough, unequal, and tender, and will be found to spring from an ulcerated surface, and to be in its turn the subject of ulceration. The state of the vagina, as to its calibre and sensibility, should be carefully examined, as the morbid deposition is apt to spread to the sides of the vagina, and even to the bladder. When there is a fistulous opening into the bladder, allowing of the escape of urine through the vagina, some chemical reaction often takes place between the urine and the discharge from the ulcer; flocculi of coagulated lymph are formed, which adhere to the rugæ of the vaginal mucous membrane, and upon which is deposited a quantity of the earthy matter contained in the urine. The surface of the vagina thus acquires a roughness and inequality, which might mislead us to conclude that it participated in the ulceration.

It is seldom that the *speculum* can be introduced, on account of the extreme pain it occasions. When it is possible, it merely adds an acquaintance with the color of the surface of the ulcer, to the information derived from an examination with the finger. The ulcerated surface is of a greyish color—occasionally dark brown; its edges are of unequal elevation, and very irregular.

352. So far, the local symptoms have alone been mentioned, but we should anticipate great constitutional disturbance likewise. The circulation is hurried; the pulse small, quick, wiry, and concentrated, until reduced in force by the repeated hemorrhages. In some cases we meet

with the perfect simulation of heart disease. "There is a slow fever," says Leake,* "attended with night sweats, an habitual diarrhœa, pain, and want of rest." The skin during the day is hot, dry, shrivelled, and yellow, or of a leaden color. There is great emaciation; the fat is all absorbed, the muscles wasted, the eyes sunken, and the patient ultimately resembles a living skeleton. The appearance, however, is totally different from that of a phthisical patient. There is a sharp, distressed expression about the countenance in cancer, very different from the look of exhaustion we observe in phthisis. The features are all drawn upward, the result of severe pain, and they are also very prominent, as though the skin were merely stretched over the bones. The discoloration of the skin, which has been mentioned, also extends itself to the other tissues. The stomach soon sympathizes with the organic distress. The appetite gradually diminishes, and ultimately almost ceases; digestion is performed very imperfectly; the patient complains of nausea, with occasional vomiting, and sometimes of a burning heat in the region of the stomach, extending to the intestines. There is intense thirst. Diarrhœa alternates with constipation, and it is difficult to say which occasions the most distress. "The characters of this *cancerous cachexia* are, emaciation, softness, and flaccidity of the soft solids, œdema of the extremities, hectic fever, a peculiar change of the complexion and color of the whole surface of the body, which becomes of a pale leaden, or pale straw color or waxy hue, and general depravation of the functions. This state of cachexia increases with the progress of the disease, and augments at the same time the primary local change. It is rapidly developed and increased when the scirrhus ulcerates, when also carcinomatous tumors frequently manifest themselves in various parts of the body. Ultimately the circulating fluid is deficient in quantity, and is poor and morbid; and the vital cohesion of the soft solids, and even of the bones, is diminished."†

There is sometimes a special cause for the constipation, in an enlarged condition of the pelvic glands, which may so press upon the rectum as actually to arrest the passage of fæces. Dr. Montgomery‡ relates such a case, and he quotes§ a still more remarkable one, where "constipation was induced by this kind of compression, and lasted *nine weeks*; all the efforts to procure the passage of the fæces, either by injection thrown up in great quantities, or by bougies completely failed."

The abdomen is sometimes soft and flaccid, and at other times tense and painful. It is, however, extremely rare to meet with peritonitis; for, although the ulceration may arrive at the outer side of the peritoneum, it rarely perforates it, unless aided by some sudden effort. Dr. Lee, however, speaks of death being the result of peritonitis, caused by the nearness of the ulcer to the peritoneum. He also mentions, that the ulcer sometimes penetrates the peritoneum covering the uterus, and he relates two interesting cases, one where the "peritoneum of the fundus uteri had been perforated by gangrene;" and another where the ilium had just been united to the uterus by lymph, and then penetrated by the ulceration; and in consequence, "for many months before death, the fæces did not pass along the colon, but into the vagina through the opening into the ilium."* In one of Dr. Montgomery's cases, there was general anasarca.

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* On Diseases of Women, vol. i. p. 114.

† Copland's Dict. of Pract. Med. p. 285. See also Blundell: Dis. of Women, p. 165. Dict. des Sciences Med. art. Cancer Uteri. Cyclop. of Pract. Med. vol. iv. p. 396.

‡ Dub. Hosp. Reports, vol. v. p. 424.

§ Ed. Medical Journal, Jan. 1829, p. 220.

The surface of the tongue is often dry and glossy, especially towards the latter stages of the disease, and it may either be pale or deep red. It is often sore, and small sores of an intractable character form at the angles of the mouth. Occasionally, aphthous patches are observed in the mouth, and also in the vestibulum and around the anus, Leake† enumerates pain in the breasts among the symptoms of cancer uteri.

Although the series of symptoms I have described are observed in most cases of cancer of the womb, yet, of course, in each case there may be some peculiarity. In one case, there may be little or no pain; in another, no hemorrhage; in a third, the fever may be less distressing.

In cases of cancer of the bladder and vagina, the uterus may be scarcely affected at all, and yet the symptoms be just the same as in cancer uteri, only that an unusual degree of sensibility may be remarked about the vagina. There is a mistake into which we might easily fall with such cases: as the cavity of the pelvis is not as full as in ordinary cases of cancer, the uterus is more moveable than usual, and the disease might be supposed to be corroding ulcer of the womb.

In most cases of long duration, a deposition of cancerous matter takes place in certain organs, principally the liver and lungs, although it has been found in others. Dr. Blundell‡ mentions that he has never seen a coincident deposition in the mammæ and uterus. Of course, this deposition gives rise to a secondary train of symptoms and functional disturbances (such as cough, &c.), but which are unnoticed in the magnitude of the primary phenomena.

Lebert has noted the duration in 39 cases: in 1 it was under 3 months; in 5 from 3 to 6 months; in 6 from 6 to 9 months; in 5 from 9 to 12 months; in 9 from 18 to 24 months; in 10 from 18 to 24 months, and in 3 above 2 years.*

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* Cyclopedia of Practical Medicine, vol. iv. p. 395.

† On Diseases of Women, vol. i. p. 117.

‡ Diseases of Women, p. 161.

353. *Prognosis.*—The prospects of the patient are in all cases unfavorable; there is no hope of cure, and but little, if any, decided mitigation of the agonizing suffering entailed by the complaint. The length of the disease will depend a good deal upon the character of the patient's constitution; the hemorrhages, although they may ameliorate, or even appear to arrest the progress of the ulceration for a time, must inevitably weaken the patient, and diminish the powers of resistance. It is really wonderful to see how long life will endure, notwithstanding the formidable combination of local ulceration, wasting fever, agonizing pain, and flooding. The patient ultimately dies of exhaustion, caused by the fever and hemorrhages, or by the occurrence of peritonitis or enteritis, or from retention of urine and effusion into the arachnoid. Dr. Beatty has brought forward a case in which he thinks that pericarditis occurred as a consequence of retention of urine, by closure of the vesical orifice of the ureters.

354. *Diagnosis.*—We may hope that as our microscopic knowledge increases, we may arrive at some definite distinctive mark by which to recognize the disease. At all events, a microscopic examination should be made whenever it is possible, as by this means we may often arrive at a negative conclusion.

a. Scirrhus. It may be distinguished—1. From *simple induration;* by being less red and vascular, but harder and more lobulated; by the deposition into the surrounding tissues, and by the diminishing mobility of the uterus.

2. From *fibrous tumor;* by being more lobulated, less defined, and ultimately by the pain and ulceration.

3. From *tubercles, &c. in the uterus;* by the hardness and extent of the disease, by the pain, discharge, and the course of the complaint.

4. From *moles, hydatids, &c.;* by the greater hardness, and the spreading into the neighbouring tissues, and by the termination of the two diseases.

5. From *early pregnancy*—by the hardness of the uterus, its slow increase, by the persistence of menstruation generally, and the absence of all the "signs of pregnancy."

355. *b. Cancer.*—The diseases with which cancer is most likely to be confounded are, simple ulceration of the cervix uteri, corroding ulcer, and syphilitic ulceration. The characteristics upon which the diagnosis must be founded are, the local deposition, the extent of ulceration, the character of the affected tissues, the fixedness of the uterus, the great general distress, the fever, and the fatal termination.

It may be distinguished. 1. From *simple ulceration of the cervix uteri;* by the increased size of the womb from morbid deposition; by the greater depth of the ulceration; by the fœtor of the discharge;

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* Traité des Mal. Cancereuses, &c. p. 270.

by the immobility of the uterus; and by the severity of the constitutional symptoms.

2. From *corroding ulcer;* by the immobility of the uterus, and by the filling up of the pelvis by morbid deposition.

3. From *venereal ulcer*; by the morbid deposition and immobility of the uterus; by the depth and irregularity of the ulcerated surface; by the severe pain, and the intractable nature of the complaint. When speaking of venereal ulcers of the uterus, Mr. Pearson remarks, "In every case that I have met with, the uterus retained its natural pendulous state: there was no eversion, nor remarkable dilatation of the os uteri; the ulcers were smooth and even; there were no fungi, nor even unnatural alteration in the structure of the vagina; the pain attending this form of the disease was neither constant nor acute. The venereal ulcers of the uterus yield to the same mode of treatment that is generally employed for the lues venerea."*

356. *Treatment.—(a) Scirrhus.* A great number of remedies have been employed against what medical practitioners have called scirrhus, and, according to their testimony, with beneficial effects. Thus Manning† relates a case of incipient scirrhus cured by cicuta. Stock, Nauche,‡ Boivin and Dugès,§ Recamier, &c. believe in the

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* Principles of Surgery, p. 120.

† On Female Diseases, p. 272.

‡ Mal. prop. aux Femmes, vol. ii. p. 598.

§ Diseases of the Uterus, p. 239. See also Rust's Magazine, vol. 47; the Lancet for Oct. 1, 1836; and the Dublin Journal, No. 31.

For a long list of supposed remedies, the reader is referred to Astruc on Diseases of Women, vol. ii. p. 121.

Dr. Copland has enumerated the more important medicines which have been recommended, with the names of their advocates. This list I shall extract, slightly abridged. In the early stage: *Conium*, alone, or in combination with alkaline tonics, &c. recommended by Gessner, Girard, Hufeland, Hahnemann, and Thilenius. *Electricity* and *Galvanism*, by Brisbane and Walther; the *muriate of baryta*, by Hufeland; *antimonials*, by Rowley and Dowman; *aconitum*, by Greding; *digitalis*, by Mayer; *laurel water*, by Thilenius; *mercury, particularly the corrosive sublimate*, by Ruysch, Thilenius, and Harris; *sal. ammoniacum*, by Justamond; *belladonna*, by Gataker; and the *mezereon*, by Home.

In the more advanced stages, besides *conium*, *belladonna* has been advocated by Alberti, Lamberger, Bellot, Lentin, Camperdon, Sulzer, and Grandvilliers. *Arsenic*, the grand staple of quack medicines for cancer, by Justamond, Stark, Rush, Fisher, Michaelis, Reussner, Hill, &c. *Mercury*, as an alterative or wash, is approved of by Mosely, Gooch, Gmelin, Hagen, Gataker, Chapuis, Buchner, and by Sir Astley Cooper. The *preparations of iron*, by Justamond, De Marc, and curvative properties of hemlock. Bitter tonics with alkli *(Peyrilhè)*; Belladonna with rhubarb *(Evers)*; Hydrochlorate of baryta *(Crawfurt)*; Cyanuret, or hydrochlorate of lead, in doses of from gr-ss. to gr. iii. or gr. iv. in the day *(Nauche)*; Oxyde, or muriate of gold *(Chrestien, Nauche)*; with many others, have been supposed to exert more or less influence upon scirrhus and cancer.

Whether so formidable a disease is curable, even in the earliest stages, is, to say the least, very questionable. I confess that after an attentive investigation, my own belief is, that it is not curable. It is not intended, however, for a moment to question the veracity of so many able men, but merely their diagnosis.

I shall in this chapter, confine myself to pointing out certain ***indications***, the fulfilment of which is, to a great extent, within our power. First, our efforts should be directed to render the progress of this stage as slow, and its transmutation into cancer as distant, as possible. If we compare the symptoms which arise in the two stages of the disease, the reason of this direction of our remedies will be obvious. Scirrhus gives rise to but few symptoms, and it is only the mechanical ones which cause any distress; but cancer entails greater suffering than almost any other disease to which the female is obnoxious, and terminates fatally. So long, therefore, as the complaint can be kept in the first stage, the life of the patient is in no immediate danger, and her comfort but slightly interfered with.

In furtherance of our object, of course, every possible *cause* must be removed, and any habits which may be injurious must be altered. Sir C. M. Clarke recommends the occasional abstraction of blood, either by cupping the loins, or the application of leeches to the vulva, and this from observing the effects of the spontaneous hemorrhage in arresting the progress of the complaint. Care must be taken that the quantity lost be not so great as to injure the patient. It may be

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Carmichael. The distinguished surgeon last named prefers the subphosphate, combined with a little fixed alkili. *Lead*, by Gessner, Shoenheyder, Horstius, &c.; the ***solanum dulcamara***, by Gataker, Oribasius, and Carere; the ***volatile and fixed alkalies***, by Barker, Martinet, and Barbette: ***antimonials***, by Rowley and Theden; ***barytes***, by Crawford; ***cinchona***, by Homberg, Vieussens, and Plenck; the ***expressed juice of the chelidonium, and the sulphate of zinc***, by Berchelmann; ***lime water***, by Votel; the ***orobanche virginiana***, by Barton and Bensell: an ointment with the ***juice of the bardoma*** and ***acetate of lead***, by Percy; the ***sedum acre***, by Buchoz aud Quesnai; the ***onopordum acanthium***, by Goelicke, Handel, Juncker, and Ross; ***myrrh***, by Nicholas; ***fixed airs***, by Beddoes, Ingenhousz, Percival, Peyrilhè; ***hydrosulphuret of ammonia***, by Burns; ***petroleum***, by Ramazzini and Pierce; the ***rhododendron chrysanthemum***, by Pallas, &c.—*Dictionary of Practical Medicine*, pp. 286, 287, 288.

necessary, in case inflammation should arise in any neighbouring organ. Some slight and occasional counter-irritation may be useful, such as a blister to the loins, or even a seton in the thigh.[*] Iodine deserves a more extensive trial than it has yet had. It has been beneficially employed by Dr. Wagner[†] and Mr. Hill. Dr. Copland speaks favorably of it. Iron and its preparations will be found beneficial. The bowels must be kept free, and saline purgatives are the best, because of their causing fluid stools, which are not likely to irritate the womb in their passage through the rectum.

As to direct application to the uterus, Leake recommends vaginal injections containing lead, and, at a more advanced period, narcotic enemata. I do not see any objection to either, though I would not give the vaginal injections with the view of arresting the discharge, for the little which comes away in this stage is probably rather beneficial than injurious. If the lead be objected to, an injection of warm water should be thrown up, at least once a day, for the sake of cleanliness; care being taken that the pipe of the instrument do not strike against the cervix.

Hip-baths occasionally may be of service.

Great benefit has been said to have been derived from very spare diet; Burns quotes Pouteau and Pearson, as witnesses to its good effects.

The patient should be comfortably clothed, as keeping up the cutaneous circulation may act as a derivation from the uterus. The urticaria may be relieved by an occasional purgative of rhubarb and magnesia, with some bitter infusion.

357. *As to the management of the delivery, if the patient be pregnant*—we must be entirely guided by the nature of the individual case. It may be terminated by the natural powers alone—it may require the turning of the child—the application of the forceps—incisions, or vaginal hysterotomy. Whatever way the labor may terminate, the ultimate effect will probably be, the conversion of the scirrhus into cancer. The application of belladonna has been strongly recommended,

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[*] "M. Joubert states that he has found local blood-lettings, and the following pills, most serviceable in the different stages of cancer:

℞. Saponis Medic. . ʒiv.
Gum. ammoniaci, . ʒii.
Extract. conii,
——— aconiti āā ʒiss.
Massæ Pil. Rufi, . ʒi M. Contunde benè simul, et divide in pilulas gr. v.

"He directs two of these to be taken night and morning, increasing the dose by an additional one daily, until twelve, fifteen, or even twenty are taken, morning and night."—*Copland's Dict.* art. Cancer.

[†] Revue Medicale, June, 1823.

for the purpose of assisting the dilatation of the os tincæ. As the first stage approaches its termination, the increasing pain will demand the employment of some narcotic.

Conium, combined with the alkaline tonics or stomachics, is recommended by many authors, and I have seen much relief derived from it. Hyosciamus is also useful; and they have at least this advantage, that they do not affect the head or confine the bowels, and they leave opium for a still greater extremity.

358. *(b) Cancer.* When once ulceration has commenced, the treatment is not only more complicated, but less effective in the attainment of its object. The rapidity of the progress of the disease is greatly increased, and though it may vary at different times, it can scarcely ever be said to be stationary. Dr. Copland observes, "I conceive that the treatment of this disease should be directed to the fulfilment of the following intentions:—1st. To support the energies of life by exciting the digestive functions, and the abdominal secretions and excretions; 2nd. To sooth the morbid sensibility of the part, and promote the absorption of morbid deposition in its tissues; by means of anodynes, combined with deobstruents and discutients; and 3dly. To impart vigor to the frame by suitable medicines, diet, and regimen. The remedies which are calculated to fulfil the first indication may be often conjoined with those intended to accomplish the second and third; and both internal and external means may be simultaneously used with this view."*

And although it must still be an object to retard the downward course of the disease, we shall find it even more necessary to be cautious in the means employed; the patient will not now bear the loss of blood she could before. A very few leeches may be applied, if necessary, and counter-irritation to the sacrum, but both must be proportioned to the strength of the patient. In addition, we must combat any complication which may arise by the gentlest means likely to be effectual, and adopt every possible method of mitigating the suffering, and supporting the strength.

Narcotics are almost always necessary, and it is as well to commence with the less powerful, such as conium, hyoscyamus,† belladonna, &c. in appropriate doses. A dose should always be given at bed-time, in order, if possible, to insure the patient a quiet night. The dose must be increased every five or six days, and ultimately we must have recourse to opium.‡

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* Copland's Dictionary, p. 289.

† My friend Dr. Watson, of Chester, informs me that he has found a compound of extr. conii, extract. hyosciam. and acet. plumb. applied to the surface of the ulcer by means of a speculum, very successful in diminishing the floodings and in mitigating the pain.

‡ "It may not be uninteresting to remark," says Dr. Montgomery,

Along with the benefit hence derived, there is always one ill effect, viz. the constipation, against which our efforts must be directed, as it occasions great torture. A little castor oil, a few grains of rhubarb, or any mild aperient, should be taken now and then, or the bowels may be freed by enemata. This latter operation is one of some delicacy, in consequence of the near neighbourhood of the disease.

Some have found great benefit from the exhibition of the extract of stramonium, in grain doses, three times a day.

Iodine has been tried with temporary benefit, but with ultimate disappointment.

Great cleanliness is, of course, a '*sine quâ non*,' in order to prevent excoriation, and to lessen the infected odour of the sick room.

Vaginal injections of warm water or mucilaginous fluids should be thrown up two or three times a-day, as well for the sake of cleanliness as for their soothing effect. Capuron adds opium to the injection; others have recommended extract of conium. Various other injections have been advised, such as decoction of carrots; warm water (a pint) with acetic acid (half an ounce,) or nitric acid (ten drops,) or acetate of lead, (half a drachm.) The object of such is to sooth the parts, and to moderate the discharge; if this be very profuse, we are advised to use solutions of stronger astringent powers, e. g. of sulphate of zinc, alum, &c. They are also said to be beneficial in restraining the hemorrhages. If the flooding be excessive, it may in general, be arrested by the application of cold to the vulva, or enemata of cold water, and by keeping the patient very quiet. Dr. Blundell adds the use of the plug, but this will require great caution, as the vaginal canal is often so tender as to preclude the introduction of a foreign body.

I must confess, however, that except their soothing effects, I have seen but little benefit from injections. Some have been tried and commended, which are said to remove the fœtor of the discharges,* and also to produce a good effect upon the surface of the ulcer; such, for instance, as solution of the chlorides of soda or lime.

"that in this case, and indeed in every other of the same kind, I have found the acetum opii more effectual for the alleviation of pain and for procuring sleep, than any other preparation of that medicine: and it seems to agree best when given in the form of an effervescing draught, or, what appeared to answer still better, with cinnamon water and syrup of ginger."—*Dublin Hospital Reports*, vol. v. p. 422.

* "It becomes, on this account, a matter of much importance to diminish the fœtor, both mechanically and chemically; mechanically, by frequent washings with warm water, or the flax-seed tea; and chemically, 1st, by carbonic acid gas; 2ndly, by lime; 3rd, by the pyroligneous acid; and 4th, by the chloride of lime or soda."—*Dewees on Diseases of Females*, p. 269.

Some time ago, I ordered injections of nitrate of silver (gr. x. to ℥i of water twice a day), in a case of cancer, in hopes that it might arrest the ulceration; in this it failed; but I found that it afforded great relief in two particulars: first, it destroyed the excessive irritability of the ulcer, and diminished the pain; and secondly, it entirely took away the fœtid smell of the discharge. This latter effect was pointed out by the patient herself. I have tried it several times since, and always with the some good effect: I therefore feel justified in recommending it to the profession in this disease.

The sympathetic, and even distant pains, which I have noticed, are often and most effectually relieved by injections thrown up to the uterus. In the case of sciatica, which has been mentioned, the injection of nitrate of silver was scarcely given before some mitigation of the pain was perceived; and, after two or three more, it ceased altogether for some time.

In a late number of the 'Journal de Progrès de Medicine,' Dr. Bruni relates a case, which he says, was cured by injections of hydrocyanic acid.

359. A more direct attack upon the ulcer, at an early period, has been made by the application of caustic: caustic potash seems to have been the kind most frequently tried (*Dupuytren, Nauche,*[*] *Boivin and Dugès,*[†] *Lisfranc.*[‡]) I have tried nitric acid and caustic iodine in this way, with benefit. The fungus was destroyed, the pain relieved, and the discharge improved. It is to little purpose, however, that the surface of the ulcer be destroyed, if malignant deposition occupy the substance of the uterus, or the neighbouring organs.

The distressing state of the stomach will be relieved by aromatics combined with opium, or by aromatic stimulants. A draught containing opium confection, compound spirits of sulphuric ether, and spearmint water, is very useful.

Prof. Montgomery succeeded in relieving the sickness temporarily, by applying lint soaked in acetum opii over the stomach.

A little blue pill, with rhubarb, will act beneficially and mildly upon the stomach and bowels.

At the utmost, we can but expect some temporary relief from the measures recommended, and we have the melancholy prospect of seeing our patient descend to the grave amid agonies as insupportable as hopeless. For such cases no remedy has been supposed too desperate, which afforded even the slightest chance; and where medicine has so signally failed, the aid of surgery has been called in, and, according to the extent of the mischief, either *excision of the cervix* or *extirpation of the whole uterus* has been proposed. I have hitherto deferred entering into a full investigation of the merits of this formidable operation, because it is as a remedy for cancer of the womb that it has been generally (though not always) practised, although it rather appears to me that the actual development of cancer would be a strong reason why such an operation should not be undertaken.

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[*] Mal. prop. aux. Femmes, vol. ii. p. 616.

[†] Diseases of the Uterus, &c. p. 240.

[‡] Mal. de l'Uterus, p. 345.

M. Duparcque's conclusions on the subject of cancer generally are as follow:—

1. The greater part of confirmed cancers of the womb succeed to congestions and ulcerations capable of being cured; we may then, to a certain degree, prevent the development of these maladies, by properly treating, at an early period, the primary pathological states of which they are the consequence.

2. Once fully developed, confirmed cancers are, at present, beyond the resources of medicine; even surgical treatment, which offers some chance when the disease is limited to the neck of the uterus, is of no service when the entire organ is affected.

3. In all cases, a well-directed palliative treatment of symptoms will arrest the progress of the complaint, render it in some degree stationary, and relieve the most painful symptoms and the gravest 'accidents;' or at least so far mitigate them, as to render less painful the approach of death.

4. All the cases of extirpation which have been published were at a period too near the time of the operation (four, five, or six months at most,) for us to judge fairly of it. It is probable that a greater delay would have afforded even less encouragement.

The question very naturally divides itself into two parts; the first relating to the *excision of the cervix uteri*, and the second to the *extirpation of the whole organ.*

360. I. *Excision of the neck of the uterus.* This is an operation which has been performed repeatedly on the Continent, though but rarely in this country; and opinions as to its propriety and safety have varied very much.

Tulpius, Monteggia, Andrè La Croix, and La Peyronnie, are said to have performed the operation, but on somewhat doubtful evidence.

Osiander excised the cervix, with more or less of the body of the womb, nine times with success,* the subsequent hemorrhage being easily restrained.

M. Dupuytren† performed the operation fifteen or twenty times with success.

M. Recamier and M. Hervez de Chegoin also operated successfully in one case, and M. Cazenave in two cases.‡

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* For a succinct account of Osiander's views, see Edin. Med. and Surg. Journal, vol. xii. p. 286.

† Duparcque: Traite des Alterations, &c. p. 437. Journal Gen. de Med. vol. cix. p. 214.

‡ Gazette Med. de Paris, No. 4, 1836.

Dr. Strachan, an American,[*] has succeeded in one case; and, quite recently my friend Prof. Simpson of Edinburgh.[†]

But the great advocate for this operation is M. Lisfranc. On his evidence, professional men were almost persuaded that it was as simple and safe as his cases were numerous. It has been shown, however, by M. Pauly,[‡] that his operations were fewer in number than was asserted; and that so far from the operation being either safe or successful, several died within twenty-four hours after the operation, and a considerable proportion (more than two-thirds) were ultimately lost.

1. Instead of the 99 operations stated by M. Lisfranc to have been performed by him, only 53 can be made out.

2. There are no exact accounts of the failures which happened in hospital.

3. Out of nineteen private patients operated upon, only one has been permanently benefited.

4. Of these nineteen cases, four died within twenty-four hours—twelve had an immediate relapse—and in two others, the carcinoma not being entirely removed, the patient sank only the more rapidly.

5. Out of nine patients operated upon under M. Pauly's observation, and near whom he remained twenty-four hours, six were attacked with frightful hemorrhages; and of these six, three died within twenty-four hours.

In addition, abundant proof is afforded, that in many cases excision was utterly uncalled for by the nature of the disease. Such facts are enough to deter the most hardy from attempting this fearful operation; and the exposure of such mis-statements is a striking lesson to all who, in order to make a reputation, are ready to forsake the paths of honor and truth.

In consequence of this discovery, the operation is now regarded with great suspicion.

MM. Blandin and Velpeau have both lost several patients after it, and the latter observes:[§]—"Without entering into the question, whether excision of the cervix uteri may not have been frequently performed in cases in which there was no cancer, I will merely observe, that M. Dupuytren, who has, as it were, naturalized the operation in France, seldom has recourse to it at the present moment; that M. Lisfranc, who has so often succeeded in it, appears to adopt it less frequently than heretofore; and that, according to M. Heisse, Osiander discontinued it some time before death."

There cannot be a doubt, that among the French this operation has been frequently performed without any necessity. The feelings of the most judicious practitioners are decidedly against it.

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[*] Amer. Jour. of Med. Science, vol. v. p. 307. Velpeau: Med. Operat. vol. iii. p. 620.

[†] Ed. Journal, No. 146.

[‡] Lisfranc: Mal. de l'Uterus, p. 427, et seq.

[§] Nouv. Elemens de Med. Operat. 1843, vol. iii.

M. Duparcque* observes :—"Judging of the facts generally by those cases which I have examined, I am persuaded that amputation of the neck of the uterus has been practised in a great number of cases where it was at least useless. Among the numerous 'preparations' which have been carried about in triumph to the different medical societies by the most intrepid leveller (*'niveleur'*) of uterine necks, we, and many others, have seen necks and portions of the neck of the uterus, which had been removed as being affected with scirrhous engorgement, but which did not even offer the appearance of this state. The 'souplesse,' and the softness of the tissue of the portion removed, which was merely congested, and in which the parenchyme of the organ could be distinctly recognized, indicated sufficiently plainly that the part had been the seat of chronic inflammation, simple congestion, or merely hypertrophy. The deceitful hardness was caused by the fluid in circulation or infiltrated, and its escape after the operation had restored the portion amputated nearly to its natural condition."

Dr. Montgomery† says, "I feel quite prepared to declare my conviction of its almost universal impracticability, and of its utter inutility when the disease really exists and is developed."

Dr. Blundell‡ remarks "that an operation of this kind is quite out of the question."

Dr. Robert Lee§ observes, "From what has been stated in the course of these observations, it must appear unnecessary to pass a sentence of condemnation upon the practice of removing the uterus, either wholly or partially, when affected with malignant disease. The operation appears to be equally cruel and unscientific."

Professor Simpson has, however, practised the operation for carcinomatous diseases, and with considerable success, inasmuch as only one out of eight patients died. Nor did he meet with the sources of danger often enumerated; in one only was the hemorrhage of considerable amount, and in that it was easily restrained by the plug.‖

Mr. Moore, of Derry, U. S. removed two and a-half inches of the cervix uteri, for supposed carcinomatous disease, and the patient did well.¶

Mr. Atlee performed a similar operation; but after the wound had healed, the patient died.**

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* Traite des Alterations, &c. p. 437.

† Dublin Hospital Reports, vol. v. p. 456.

‡ Diseases of Women, p. 187.

§ Cyclop. of Pract. Med. vol. iv. p. 397.

‖ Dublin Journal, Nov. 1846.

¶ Ranking's Abstract, vol. vii. p. 313.

** American Journal of Med. Sciences, July, 1848.

The following are the rules laid down by M. Duparcque, "Sur la necessitė, la contre-indication, ou l'inutilitė de l'amputation du col de l'uterus."

1. Amputation of the neck of the uterus is inadmissable in cases of simple congestion, where the ulceration is not profound; at least we are not to have recourse to it, until the ordinary remedies have all been tried without success.

2. It ought to be rejected or delayed, when the disease whatever it may be, appears stationary, or when there is hope of preventing its ulterior development by other means.

3. It is quite inadmissable when we have reason to think the disease not confined to the neck of the uterus; when the cervix is beyond the reach of the necessary instruments; or if other organs are similarly affected.

4. We must also consider carefully any circumstance which would afford proof of an hereditary predisposition; as, in such a case, a return of the disease will be almost inevitable.

5. Perhaps, also, it might be necessary to defer the operation until age has destroyed such hereditary, organic, or vital predisposition, which may render a relapse equally certain if the operation be undertaken previously.*

In the opinion of M. Pauly, the editor of Lisfranc's work, "of all surgical operations, the excision of the neck of the womb has hitherto been one of the most murderous" ("*une des plus meurtrieres.*"†)

Although I am disposed to agree with the distinguished authors just quoted, I think it my duty to go into some details touching the operation, because it has high authority, and because the best check to its being attempted unnecessarily, is a thorough knowledge of the circumstances which are supposed to authorize it, and of the best mode of performance. I would merely wish it to be borne in mind, that I am rather quoting the sentiments of others than giving my own.

361. 1. As the only hope of benefit from the operation rests on the possibility of removing the *whole* of the disease, it would clearly be a wanton barbarity to attempt excision, except when the cervix within reach is alone affected. The limits within which an operation can be safely attempted, are marked by the insertion of the vagina into the superior part of the cervix uteri.

2. Again, it would be useless and injurious, if the surrounding parts (lymphatic glands and cellular membrane) are affected, inasmuch as the fatal progress of the disease would rather be accelerated. The uterus, therefore, should be perfectly moveable. It has been stated, however, that if the enlargement of the lymphatic glands depends upon irritation merely, and not upon deposition, it will subside after the operation, and need be no obstacle to our undertaking it.

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* Traitė des Alterations, p. 541.

† Lisfranc: Mal. de l'Uterus, p. 428.

3. Congestion of the body of the uterus is contended for by some as an objection to the operation; M. Lisfranc remarks, in answer, that if not excessive, it need not deter us, since to a certain extent it exists in all cases, and subsides spontaneously after the operation.

4. Congestion of the ovaries is not regarded as an obstacle by the daring operator of La Pitiè: he argues that as Baron Larrey used the cautery with impunity under such circumstances, no harm will result from excision.

5. Circumstances which would forbid the performance of any of the great surgical operations equally forbid this; such, for instance, as any affection of the thoracic and abdominal viscera.

6. The development of the "cancerous cachexia" already noticed, and the consequent breaking up of the constitution, as indications of an advanced stage of local disease, will, of course, prohibit the operation.

362. If we now inquire in what cases, in accordance with the foregoing observations, the expectation of benefit from this operation may be reasonably entertained, we shall find our range very limited.

1. If we could find a case of cancer in which the deposition should be strictly limited to the cervix, without contamination of the neighbouring tissues, or deterioration of the general health, but which nevertheless presented symptoms justifying our interference, we might be warranted in the attempt. But how exceedingly rare is such a combination! and yet I cannot think the operation justifiable in any other case of cancer uteri than the one just described.

2. It might be worth trying, in corroding ulcer of the uterus: here we have no surrounding deposition; there is no evidence to shew that malignant ulceration would commence in the portion of the uterus remaining after the operation, if the whole of the diseased part were removed; and if we see the case before ulceration has extended beyond the cervix, and before the health of the patient is undermined.

If there be any case calling for this operation, I think this is one; but even here, so terrible are the consequences, that it is only the recollection of the inevitable death of the patient which could arm the operator with sufficient courage.

363. *Method of operating.* The operation may be performed without depressing the uterus, or that organ may be drawn towards the vulva. The former is said to be the better plan, when the uterus is the seat of fungus or soft cancer; and, for these cases, Dupuytren* invented a species of spoon, with a cutting edge, ("*cuiller trunchante*") and also an instrument consisting of a circle of steel with a sharp inner edge, with a perpendicular handle. The neck is introduced into the circle, and excised by a rotary motion.

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* Duparcque: Traite des Alterations, &c. p. 445.

Osiander used curved scissors. MM. Hatin and Colombat[*] have each invented instruments by which the neck of the uterus can be seized and excised.

Dr. Canella[†] has contrived an instrument consisting of a cylindrical speculum, containing a second cylinder, having at its upper border a transverse blade. This being capable of being opened and shut at will scoops out the cervix, when the inner cylinder is made to rotate. The cervix is fixed by the hook forceps during the operation.

"To avoid laceration from the hooks, M. Guillon has proposed an instrument, which, after being introduced into the uterus, would be so expanded as to preclude the possibility of its slipping out, and afford a secure hold for drawing the whole organ downward. But the objections to this instrument are—1. The difficulty of introducing it; 2. The difficulty of opening it when introduced; 3. The inevitable bruises and lacerations which it would inflict."[‡]

M. Lisfranc draws down the uterus by the forceps of Museux (which are accurately applied by the aid of a bivalve speculum) until the cervix passes through the os externum. The operator then ascertains the line where the vagina is inserted into the cervix, as being the limit of the operation, and then taking a blunt-pointed bistoury, and placing it at the posterior part of the cervix, and at the proper height, he removes as completely as possible (from below, upwards) all the diseased portion. The patient is placed as for the operation of lithotomy, and it requires great care to avoid wounding the vulva. If the vaginal orifice be too narrow to permit the passage of the cervix uteri, M. Lisfranc advises the incision of the anterior border of the perineum.[§] He adds, that the operation is by no means a painful one, the chief distress arising from dragging down the womb.

An ingenious instrument has lately been proposed by Dr. Aronsohn of Strasburgh,[‖] by which the uterus can be seized, and its cervix excised without drawing it down to the vulva.

It is difficult to estimate properly these various methods; probably the one practised by M. Lisfranc is the easiest, and, as far as the operation only is concerned, the safest; but if the cervix uteri have degenerated into a soft mass, it will be impossible to fix the forceps so as to depress the uterus; and a plan like that proposed by Dupuytren must be adopted, if we venture on the operation.

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[*] Boivin and Dugès: Diseases of the Uterus, p. 245. Lisfranc: Mal. de l'Uterus, pp. 407, 408.

[†] Cenni sull' Estirpazione della bocca del collo dell' utero. Milano, 1821. See also M. Avenel's 'Memoire' on the treatment of cancerous affections of the cervix uteri. Revue Med. tom. 3, p. 6. Velpeau: Med. Operat. vol. iii. p. 620.

[‡] Boivin and Dugès: Diseases of the Uterus, p. 245.

[§] Mal. de l'Uterus, p. 409, et seq.

[‖] Zeitschrift fur die Gesammte Medicin, vol. i. p. 436.

There is one disadvantage attendant upon all *complicated* instruments, viz. that their action is fixed according to their construction, and cannot be varied according to the circumstances of the case; consequently, the remains of the disease are almost sure to be left behind: for this reason, the best instruments that can be used (and all that are necessary for this operation) are, the blunt-pointed bistoury and the forceps of Museux; which resembles the ordinary dressing forceps, except that each blade terminates in two strong, sharp hooks, curved inwards, so as to interlace with their opposites. A second pair will generally be necessary to secure a firm hold of the parts.

364. Besides the dangers of the operation itself, and these are not trifling even in experienced hands, there are others, the consequences of the operation, and developed subsequently.

1. The patient may die of hemorrhage soon after the operation.

2. Even though there be little loss during the operation, secondary hemorrhage may occur, with fatal effects, though it is not frequent after the lapse of forty-eight hours.

3. Inflammation of the womb may take place, and prove fatal by disorganization, or by spreading to the peritoneum. This is especially the case, according to M. Pauly, when the vagina is wounded posteriorly.

4. If any portion of the morbid structure be left behind, ulceration may commence in it and prove fatal, or the surface of the wound may ulcerate instead of healing.*

The hemorrhage must be met by the application of cold to the vulva, the introduction of a plug, or the employment of the actual cautery; and any inflammatory symptoms by fomentations, antiphlogistics, and calomel with opium. Should the surface of the wound throw out granulations too freely, they may be repressed by touching them with caustic.

365. II. *Extirpation of the entire uterus.* This very formidable operation has been repeatedly performed, both upon the displaced uterus and upon the uterus in "situ."

The *inverted* uterus has been successfully removed by Gooch, Granville, Rousset, Faivre,† Chevalier,‡ Baxter, Mullaer, J. Müller, Sorbart,§ Hunter (of Dumbarton‖), Johnson,¶ Rhemich, Davis, Weber,

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* Duparcque: Traite des Alterations, &c. p. 397.

† Journal de Med. Aug. 1786.

‡ See Merriman's Synopsis of Difficult Parturition.

§ Velpeau: Med. Operat. vol. v. p. 632

‖ Duncan's Annals of Med. vol. iv. p. 366 (1800).

¶ Dub. Hospital Reports, vol. iii. p. 479. Dub. Jour., March, 1845.

Cerdeiro, Newnham,[*] Windsor, Joseph Clarke,[†] Langenbeck,[‡] Voigtel,[§] Laserre,[||] Luytgaerens,[¶] Mollet,[**] Gregson,[††] M. Tarral,[‡‡] Mr. Higgins of Taunton,[§§] and Dr. Pierson and Dr. Putman of the United States, &c.[||||]

In one instance, the inverted uterus was removed by a midwife; in others it has been torn away.

There are cases on record in which the issue was less fortunate.

A case in which Deleurye operated proved fatal after a few days; a similar result followed an operation of the same kind by Baudelocque, Desault, and Buet of Vienna.[¶¶] Two fatal cases are quoted by Boivin and Dugès, in which the inverted uterus was mistaken for polypus; one at Lyons under the care of Dr. Key, and the other in Paris.[***]

In cases of *prolapse*, the uterus has been successfully removed with the ligature by Gallot, Marschall, Fodere, Recamier, Marjolin, Delpech. A similar case by Ruysch, proved fatal. Langenbeck succeeded with the bistoury. Prof. Wisberg relates a case of its removal by a midwife, with a knife.

When the uterus is "in situ," the operation is, of course, much more dangerous. "Palletta was one of the first, if not the first, who performed this operation, without being aware that he had extirpated more than the cervix uteri. Since that time it has been performed, with a perfect understanding of the case, once by Sauter, twice by Siebold, once by Holscher, four times by Blundell, once by Barnes, once by Lizars, three times by Recamier, thrice also by Langenbeck, once by M. Dubled, once by M. Delpech. Of all the nineteen patients, sixteen died in consequence of the operation, one as late as the fourteenth day (*Langenbeck's*), another on the fourth (*Barnes'*), most of them on the following, or third at the latest; some in a few hours, or or even a few moments after the operation."[†††]

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[*] Essay on Inversion of the Uterus.

[†] Edinburgh Medical and Surgical Journal, vol. ii. p. 419.

[‡] Siebold's Journal, vol. x. p. 57.

[§] Edinburgh Medical and Surgical Journal, vol. ii. p. 421.

[||] Med. Chir. Review, April, 1838, p. 561.

[¶] Edinburgh Journal, July, 1840.

[**] Annales de Therapeutique, January, 1845.

[††] London Medical Gazette, February, 1846.

[‡‡] Journal Hebdom. de Med. vol. v. 1829.

[§§] Edinburgh Monthly Journal, July, 1849.

[||||] American Journal of Medical Sciences, April, 1849. Oct. 1856.

[¶¶] Saltzburg Med. Chir. Zeitung, 1813, b. 3, s. 188.

[***] See Tarral's Memoire in Jour. Hebdom. de Med. 1829, and Sauter's Memoire, in the Melanges de Chirurg. etrangere. Velpeau: Med. Operat. vol. iii. p. 631.

[†††] Boivin and Dugès: Diseases of the uterus, p. 248.

Dr. Blundell has performed it four times; one case recovered, three died shortly after the operation. He remarks,[*] "If cancer of the lip may be removed with success, I should be inclined to hope that the same success might attend extirpation of the malignant scirrhus of the uterus."

Dr. Paul Eve of Georgia removed the entire uterus in situ for a malignant polypoid growth; but the woman died some months afterwards of encephaloid disease.[†]

Velpeau[‡] says, that the operation has been performed twenty-one times in twenty years, and of all these, not one has been permanently cured.

This operation has been proposed as affording a chance of recovery to persons laboring under cancer or malignant ulceration of the uterus, and also to avoid consequences (ulceration and gangrene) which sometimes follow prolapse or inversion of this organ.

366. (*a*) As to the circumstances which permit or forbid the attempt at extirpation of the uterus "*in situ*," on account of organic disease, they are nearly the same as we mentioned when treating of excision of the neck.

1. The disease must be strictly confined to the uterus, not having infected any neighbouring parts; the uterus must be free and moveable; and the more recent the ulceration, the better.

2. The glands of the pelvis, the ovaries, the bladder, and rectum, must be free from disease.

3. There must be a total freedom from organic disease of other parts.

4. The patient's health should be such as would warrant a grave surgical operation, and therefore it must be undertaken before the setting in of the cancerous hectic.

367. (*b*) When the uterus is displaced, it is desirable that the pelvic viscera should be healthy, that there should be no adhesions, and that the health should be good. But as the operation is so much less serious, our hesitation on account of the condition of the patient would be less.

368. *Method of operating.*—This will somewhat depend upon the situation of the uterus; if *prolapsed or inverted*, it may be removed by the scalpel, by ligature, or by the two combined. If in its *natural situation*, careful excision is the only means.

1. If the knife alone be employed in the removal, we should be prepared, in case of hemorrhage, to apply the actual cautery. Care must be taken to remove the intestines from the "sac" formed by the depression of the uterus; and, if possible (in cases of

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[*] Diseases of Women, p. 162.

[†] American Journal of Medical Science, Oct. 1850. p. 395.

[‡] Med. Operatoire.

prolapse), the peritoneum should be dissected off. In cases of inversion, this is impossible, and patients have recovered without such care.

This is undoubtedly the quickest mode of removal, but it may be questioned if it be the most prudent.

2. The *ligature* may be single or double, *i. e.* it may either simply surround the pedicle of the tumor, or a double one passing through the centre may divide the mass into two portions, each having its own ligature. Either may be easily applied, and should be tightened every day until the tumor fall off, if the patient will bear it; if not, every second or third day.

It generally causes a good deal of pain, and a dose of opium will be necessary at bed-time.

Care must be taken that no intestines be included in the 'cul de sac' of the inverted vagina.

The length of time which may elapse before the separation of the uterus varies from three weeks to two months.

From the supposed safety of the ligature, it has been preferred by the majority of practitioners, and, as we have already seen, it has been repeatedly successful.

As, however, some unpleasant symptoms arise during the separation of the uterus, when left to the efforts of nature, from irritation and inflammation caused by the fœtid discharges, and the presence of a semi-putrid mass, it has been proposed by some writers to amputate the uterus below the ligature, a short time after it has been applied, by a stroke of the scalpel. If any hemorrhage occur, it can be commanded by tightening the ligature, or by the application of the actual cautery.

It appears to me that this is a far better plan than the use of the knife or ligature separately: it combines the advantage of both, and avoids the inconvenience to which each is liable.

369. *Removal of the uterus when not displaced.*—Recamier* and Dupuytren advises that the uterus should be drawn down to the vulva, in order to facilitate the operation; but M. Gendrin† opposes this, and recommends instead, that the uterus should be pushed up, "in order to separate the neck of the uterus from the portion of the vagina reflected upon it, and also from the uterine arteries." The next step, according to Recamier and Roux, is to separate the bladder from the uterus; but Dr. Blundell commences posteriorly. M. Gendrin commences laterally, in order to reach and tie the lateral ligaments as quickly as possible.

The following is the account given of M. Recamier's case. The state of the uterus before the operation was as follows:—"The posterior lip of the os uteri was destroyed; the anterior, protruding more than half an inch, was rough, 'bosseleé,' and ulcerated internally. The os uteri was wide, and the finger penetrated into the cavity with the greatest facility, owing to the softening of the walls, which were thickened by the development of fungous growths and encephaloid tumors. The posterior wall of the vagina was ulcerated to the extent of an inch. The rectum was healthy, and free from adhesions, as was the bladder also. The abdomen was soft, not tender, the pulse quick, and the tongue clean." The operation having been determined upon, "the patient was placed upon the table as for the operation of lithotomy; the projecting part of the cervix uteri was seized by two pair of Meseux's forceps, and gentle traction made, in order to depress the uterus as much as possible. This part of the operation was the most painful. After examining the rectum, M. Recamier proceeded to the excision of the vagina, which he performed with a bistoury, '*en rondache*' at the point where the vaginal mucous membrane is reflected upon the cervix. The finger was introduced into the incision, in order to separate the uterus from the bladder, which was done to the extent of two inches. The peritoneum was next cut across, and then the ligaments of the uterus, by means of a blunt-pointed bistoury. So far the patient did not loose an ounce of blood, and complained very little. The broad ligaments were secured by ligatures applied after their division. This accomplished, the body of the uterus was drawn forward and downwards, the forceps disengaged, and the operator divided the posterior wall of the vagina, as well as any fold of peritoneum which connected the uterus to the surrounding parts, and the removal of the uterus was completed." The operation was successful, and I myself saw this patient in the Hotel Dieu after the parts were healed.*

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* Recherches sur la traitment du Cancer, tome i.

† Journal Gen. de Med. Oct. 1829.

Langenbeck endeavours to dissect off the peritoneum without wounding it.

The uterus being separated at one part, may either be turned forward† or backward to complete the separation, or it may remain in its natural situation until completely isolated, and then be drawn straight down. It will be necessary to apply a ligature to the ligament on each side, in order to prevent hemorrhage.

Dr. Blundell thus describes his mode of operating:—"I commenced by passing the index and second fingers of the left hand to the line of union between the indurated and healthy portions of the vagina, and then by taking the stem knife (the description of which is here omitted) in my right hand, I could at pleasure lay the flat of the blade upon the point of these fingers, and urge the point of the instrument a little beyond the tip. The apex of the fore-finger being in this manner converted into a cutting point, by little and little I gradually worked my way through the back of the vagina, towards the front of the rectum, so as to enter the recto-vaginal portion of the peritoneal cavity; frequently withdrawing the stem scalpel, so as to place the point within the tip of the finger; and then making an examination with great nicety, to ascertain whether the vagina was completely perforated. A small opening having been formed in this manner at the back part of the vagina, through this opening the first joint of the fore-finger was passed, so as to enlarge it a little by dilatation and slight laceration. This done, I proceeded to make an incision transversely, that is, from hip to hip; for this purpose carrying the finger with its cutting edge from the opening of the vagina already made, to the root of the broad ligament on the left hand side, so as to make one large aperture. I then took a second stem scalpel, having the incisory edge on the opposite side of the blade, and laying this instrument on the fore-finger as before (in such a manner, however, that the cutting edge lay forth on the other side of the finger), I carried the finger, thus armed, from the middle of the vagina, where the former incision commenced, to the root of the broad ligament on the right side, so that the diseased and healthy portions of the vagina behind became completely detached from each other. The back of the vagina, then, having been divided in this manner, I urged the whole of the left hand into the vaginal cavity, afterwards passing the first and second fingers through the transverse opening along the back of the uterus; this viscus lying, as usual, near the brim of the pelvis, with its mouth backward, its fundus forward, a little elevated just above the symphysis pubis. This manœuvre premised, taking a blunt hook, mounted on a stem eleven inches long, I passed it into the abdominal cavity through the transverse opening, and, with little pain to the patient, pushed it into the back of the womb near the fundus, and then drawing the womb downwards, and backwards towards the point of the os coccygis, as I carried the fingers upwards and forwards, I succeeded ultimately in placing the tips over the fundus in the manner of a blunt hook: after which, by a movement of retroversion, the womb was very speedily brought downwards and backwards into the palm of the left hand, then lodging in the vagina; where, at this part of the operation, the diseased mass might be seen distinctly enough, lying just within the genital fissure. The process of removal being brought to this point, the diseased structure remained in connexion with the sides of the pelvis, by means of the fallopian tubes and broad ligaments; and with the bladder by means of the peritoneum, the front of the vagina, and the interposed cellular web; parts which were easily divided, so as to liberate the mass to be removed. The broad ligaments were cut through, close upon the sides of the uterus, and in dividing the vagina, great care was taken to keep clear of the neck of the bladder and ureters. Four or five ounces of blood only were lost, and ligatures were unnecessary. The patient suffered very little distress, and recovered easily. The account was published five months after the operation, at which time the patient was doing well."[*]

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* Archives Gen. de Med. vol. xxi. p. 79.

† Melanges de Chir. etrang. 1824, Geneva.

A surgeon of the name of Gutberlat proposed, in 1814, to cut down upon the uterus through the linea alba, and extract it; and the operation has been performed in one case by Langenbeck in 1825, and in another by Delpech. The results were not such as to invite a repetition of the operation. Both patients died very shortly afterwards.[†] Dr. Blundell speaks rather more favorably than might have been expected of such an operation; he says,[‡] "Might not the womb be taken out above the symphysis pubis, or through the outlet of the pelvis? If above the symphysis pubis, might not the head of the vagina be tied up, and might not the ligature be conveyed by needle into the vagina, so as to hang out at the pudenda? All the parts about the cancerous womb, and the vagina among the rest, are in such a diseased state, that I expect little from this operation, unless early performed; and then, perhaps, Osiander's operation of paring away diseased surface of the ulcer might be preferable; but really the effects of these malignant ulcerations are so deplorable, that I think the propriety of extirpating the womb in these cases ought certainly not to be lost sight of."

M. Dubled has proposed to remove the uterus without injuring the peritoneum; this operation was contemplated by Sauter, and performed by Langenbeck on a case of prolapsus uteri; it is nearly the same as the method of excision proposed by M. Bellini. It consists in drawing down the uterus, separating the vagina at its insertion, and then carefully dissecting out the uterus, applying ligatures round the broad ligaments, and dividing them close to the uterus.

370. The dangers attendant upon the removal of so important an organ as the uterus, whether displaced or "*in situ*," cannot be *lightly* estimated.

1. The first danger is from the shock given to the constitution, which may even prove fatal. Dr. Blundell thinks that this is felt the most when the supports of the uterus in the pelvis are divided, and when the mass is extracted from the pelvis. This shock is very slight when the uterus is displaced.

2. Dangerous or fatal hemorrhage, may occur after the extirpation of the uterus "*in situ*;" when the uterus is displaced, this danger may be avoided by the use of the ligature or the actual cautery.

3. The parts within the pelvis, or the peritoneum, may be attacked by inflammation, compromising the life of the patient. To this, each kind of operation is obnoxious.

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[*] Lancet, Aug. 9, 1828.

[†] Boivin and Dugès, p. 248.

[‡] Diseases of Women, p. 177. See Siebold's Journal, vol. iv. p. 507.

4. If the opening of the upper part of the vagina be considerable, the intestines may protrude. This would be remedied by a small sponge-tent.

I have thus endeavoured to describe these two grave operations, *excision* and *extirpation* of the uterus. I have enumerated those who have attempted the operation, as far as I could ascertain their names, and have pointed out the circumstances which have been considered as justifying the attempt, with the different methods adopted for the attainment of their object. If I have merely echoed the opinions of others, it is, I honestly confess, because I have had myself no experience on the subject.

After a careful examination of the results of the operation, when the uterus is "*in situ*," it is really difficult to find adequate reasons in its favor, except the repugnance which every one must feel, to give up entirely the hope of affording relief from the most agonizing sufferings to which the female sex is exposed.

"It is evident that the extirpation of the uterus is one of the gravest and most painful operations in surgery, since it is the most fatal. It ought not to be undertaken except with great prudence, nor unless it is probable that the disease is perfectly moveable. The signs of this limitation of the disease to the uterus, and of its mobility are to be acquired by the use of every mode of examining the uterus, but, unfortunately, these means are not always trustworthy. Very able men (MM. Sauter and Roux) have overlooked the extension of the disease to the ovaries and fallopian tubes, which are often attacked when the body of the womb is affected. We must conclude that in many cases it will be wiser to abstain from the operation."*

Our conclusion will be different as regards the removal of a displaced uterus. The operation is far less formidable, is attended with less shock to the constitution, and has been performed repeatedly with the most perfect success. There can be no objection against undertaking it, under favorable circumstances, and when the case may require it.

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* Gendrin.

CHAPTER XXI.

DISPLACEMENTS—ANTEFLEXION AND ANTEVERSION OF THE UTERUS.

371. It may be thought somewhat out of place to treat of some of these displacements here, as they are so intimately connected with pregnancy and parturition; but as they do occur independently, it appears to me preferable to travel so far out of the way, in order to complete the subject, rather than give a partial view, or omit it altogether.

It is proposed to describe four kinds of displacement, viz.: Anteversion, Retroversion, Prolapse, and Inversion of the womb.

372. But before proceeding to describe these, there are one or two questions, the answers to which will very materially facilitate our understanding these displacements. For example, what is the normal position of the unimpregnated uterus in a state of health—upon what does it depend for its support and what extent of normal mobility does it possess?

1. If we examine the uterus in a woman who has had children, and in the upright position, we find that the os uteri does not rest upon the floor of the pelvis, but is above it, it may be an inch or so, and turned backward; while the body of the uterus rests upon the symphysis pubis, or is more or less raised from it by the distended bladder. When sitting, the position will be much the same; but when lying on the back or sides, it is clear that the fundus will be inclined more backwards or to one side, and this we see every day. A sufficiently marked change is effected by pregnancy and child-bearing. The tissues having been fully stretched, hardly recover their former tone and firmness, consequently we generally find the cervix lower down in the pelvis, and the relations of the uterus more easily affected by change of position, fulness of bladder or rectum, &c.

2. Formerly the support of the uterus in its proper position was mainly attributed to the uterine ligaments, &c.; but a more correct estimate has shown that these have but a limited influence, and that the real support is from below, depending upon the tone of the vagina and the soft tissues which close the outlet. Any change here is immediately felt, and will form a chief element in the production of displacements.

3. From what I have said it will be perceived that even in women who have never been pregnant or had children, the uterus has a certain range of mobility, that lying down or standing up will make a considerable difference, and that it must change its position according as the bladder is full or empty. Still more marked is this mobility in women who have borne children; the position of the uterus is perpetually changing, as we may observe in successive examinations; nay,

it may be changed by the finger or uterine sound, without the patient being aware of it. I therefore quite agree with Drs. Duncan and Bennet that the extent of mobility is considerable, probably much greater than has been supposed, and therefore that we are by no means to pronounce that a uterus is displaced (in a medical or surgical sense), merely because it has temporarily varied in position. And further, that in many, if not in most cases, it is not the displacement which gives rise to the symptoms, unless it be considerable and permanent. These observations apply only to anteversion, retroversion, and lateral version. A slight depression of the uterus in the cavity of the pelvis is generally felt by the patient, and its increase is an evil calling for a remedy independent of its cause.

373. We shall now speak of *anteflexion* and *anteversion* of the uterus, or that displacement in consequence of which the uterus occupies a transverse position in the pelvis, the fundus being towards the symphysis pubis.

374. *Anteflexion*, or the bending forwards of the body of the uterus upon the cervix, may occur in the unimpregnated state, although I believe such cases to be very rare. *Anteversion* of the unimpregnated uterus, in which the fundus is tilted forwards, and the cervix projected backwards, is said to be more frequent than has been supposed; but I confess I have seldom met with it to such an extent as to cause inconvenience, except from organic disease. M. Valleix states that of 68 cases there were 11 anteflexion and 12 retroflexion, 24 anteversions, with or without flexion, and 21 retroversions, with or without flexion.* Prof. Dubois considers it more frequent than retroflexion,† and M. Boulard has made some very curious researches on this subject, and he finds that in the fœtus the uterus is almost always anteflexed, and he has now examined 27 adult females who have never borne children, 19 young girls, from two to thirteen, and 17 full-timed fœtuses. In the majority of these he found anteflexion.‡ His observations have been confirmed by M. Porchat.

When the woman is pregnant, this accident is rarely seen; it can only occur whilst the uterus is about the natural size, and in the cavity of the pelvis. There are other circumstances also which preserve the female from this displacement, and which will strike us at once, if we recal the relative position of the uterus in the pelvic cavity. Situated near the level of the upper outlet, it rests anteriorly upon the bladder, and posteriorly is in contact with the rectum. Now the oblique position of the pelvis, when joined to the spinal column, would naturally favor the occurrence of anteversion, were it not that the presence of the bladder, so often distended, offers an obstacle to its descent anteriorly. So long as the bladder contains much urine, this accident may be considered impossible. When it does take place, the fundus uteri is directed anteriorly to the inner surface of the symphysis pubis, pressing upon the neck of the bladder; whilst the cervix presses the rectum posteriorly, the uterus lying transversely across the pubis, instead of being nearly perpendicular.

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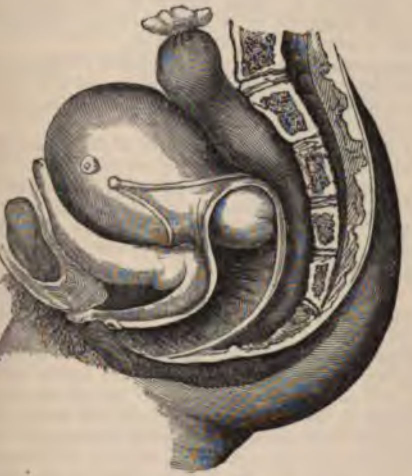
* Lectures, translated by Dr. L. Parks. Boston Medical and Surgical Journal, 1853.

† Gazette Med. November 4, 1850.

‡ Rev. Med. Chir. vol. xiii. p. 341.



375. *Causes.*—For the production of anteflexion or anteversion, it is necessary that the fundus uteri should be rendered somewhat heavier than usual, compared with the inferior portion of the organ, or else that a decided tilting forward should be occasioned by a force external to the uterus.* This may be effected in the unimpregated state by means of chronic enlargement of the anterior wall; by tumors growing from, or imbedded in that part; by great congestion, &c. If the bladder be empty, and a sudden expulsive force be exerted at the same time, the uterus may be tilted over anteriorly, especially if the

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* Nauche: Mal. prop. aux Femmes, vol. i. p. 102.

ligaments have been relaxed by previous pregnancies. Pregnancy, by increasing the weight of the fundus uteri, will so far fulfil one of the necessary conditions; but the displacement can only happen during the first two or three months. In some cases, it has been discovered that the first displacing power resulted from an accumulation of fæces high up in the rectum, which pressed forward the fundus uteri. In others, an attack of chronic metritis has rendered the womb top heavy, or the same effect has been produced by a fibrous tumor, or by miscarriage, according to M. Valleix. We must also suppose, I think, that some relaxation has taken place in the surrounding soft tissues. A blow, a fall, a shaking in an uneasy carriage, obstinate diarrhœa, have all been enumerated as exciting causes.

376. *Symptoms.*—These are not very marked, except such as depend upon the mechanical disarrangement of parts; and Prof. Dubois denies that these displacements ordinarily lead to the consequences which have been attributed to it.

If great pressure be made upon the neck of the bladder, or upon the urethra, retention of urine may result; but this is rare. The patient complains of some difficulty in passing urine, as well as in going to stool, but assistance is seldom required on this account.* Constipation is sometimes occasioned by the pressure upon the rectum. The patient feels a great and unusual weight in the pelvis, with a pain in the hypogastrium and the perineum, and a sense of dragging from the loins, all of which are greatly increased by standing or walking. Leucorrhœa sometimes occurs, and occasionally there is some irregularity in the menstrual evacuation.†

If an *internal* examination be made, the pelvis will be found blocked by a tolerably dense body—the uterus: the fundus will be found anteriorly, and the cervix posteriorly. If the *uterine* sound be used, it will not pass in the usual direction, but it will require the point to be directed much more forward, and almost horizontally. This, however, must not be used when there is a suspicion of pregnancy. If a catheter be introduced into the bladder, it will impinge upon the displaced fundus, and this has given rise to a suspicion of stone in the bladder. There is, however, no sound resulting from the contact, nor is the touch like that of stone. If the displacement be not remedied, the anterior wall of the uterus generally becomes the seat of engorgement and inflammation;‡ and it certainly seems to be one cause of sterility.

There is a slighter degree of displacement in the same direction, which takes place sometimes in the latter months of pregnancy, and is

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* Capuron: Mal. des Femmes, p. 293.

† M. Valleix's Lectures.

‡ Mal. prop. aux Femmes, vol. i. p. 101.

called *anterior obliquity*.* It occurs in first pregnancies, from the natural obliquity of the uterus, and also after many child-bearings, from the relaxation of the abdominal parietes allowing the uterus to fall forward. The os uteri is situated near the promontory of the sacrum, and is sometimes difficult to find. This has led to the supposition of certain cases being examples of imperforate uterus. The symptoms, in some respects, resemble those already described, but in themselves they are of little consequence; our main attention will be directed to the effect of this displacement in retarding labor; by forcing down a segment of the os uteri between the head and the ossa pubis, this portion of the uterus usually becomes tumified and indisposed to dilate; and the action of the uterus grows irregular, spasmodic, and more acutely painful.†

377. *Diagnosis.*—1. Levret confessed that the only case of anteversion he met with, he mistook for a stone in the bladder; and the mistake was corrected only by a *post mortem* examination, the woman having died after the operation for stone.‡ The introduction of a sound into the bladder, conjoined with a careful *vaginal* examination, ought to guard against this error.

2. From *retroversion*, it will be distinguished by the greater bulk being anteriorly, and by the cervix uteri posteriorly.

3. From *pelvic tumors*. Great difficulty may be experienced in the diagnosis; but if we can find the os uteri posteriorly, and so trace the cervix and body continously across the pelvis, we may be pretty sure that the case is anteversion of the uterus.

4. From an *ovarian tumor*, by its sensibility, its history, by the presence of the os uteri, and by tracing the uterus across the pelvis.

378. *Treatment.*—Many of the slighter cases rectify themselves, aided on the one hand, by the filling of the bladder and on the other, by the efforts to empty the rectum. When caused by chronic metritis, the appropriate antiphlogistic treatment, by relieving the disease, will allow the uterus to resume its natural situation. And this principle should never be forgotten, that the first object is to remove the cause even before any attempt is made to remedy the displacement unless the mechanical inconvenience be serious.

If we are obliged to interfere manually, the reposition seldom offers very serious difficulties. The cervix should be hooked down with the forefinger of one hand, whilst with the other, the fundus uteri is to be gently elevated. The utmost tenderness must be used, and the patient kept in bed for some days, lying on her back.

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* "This is not a very unusual occurrence in women with wide pelves, and it always occasions a slow labor, especially if it be a first child."—*Merriman's Synopsis of Difficult Parturition*, p. 65.

† Merriman's Synopsis, p. 14.

‡ Capuron: Mal. des Femmes, p. 292.

Sponging with cold water, 'douches,' or cold vaginal injections, will aid in restoring the tone of the vagina. Nauche speaks of using a pessary "*à bilboquet*," with the upper part hollowed to receive and retain the cervix uteri: but this will very rarely be necessary. The stem pessary is used by Dr. Simpson and M. Valleix and others, but I really conceive such means will seldom be necessary, and they may be injurious.

As to the anterior obliquity occurring at the end of pregnancy, and interfering with parturition, Dr. Merriman observes, "This kind of labor is best relieved by time and patience. It has been thought advantageous for the patient to *take her pains*, lying on her back; for, as the belly is very pendulous over the symphysis pubis, this position rather takes off the pressure, which the uterus, interposed between the edges of the pubes on one side, and head of the child on the other, has to suffer, and by which cramps and spasmodic pains are generally produced." This, in many cases, is rather inefficient management; and delivery, without further assistance, is at the expense of some hours to the patient. Dr. Hamilton's advice is more in accordance with my own experience, when he remarks:[*] "The effectual means of giving relief is, during the pain, to press up the band of the uterus, which is between the head and the pubes. When that is effected, the band next the sacrum is to be pressed upon, and whenever it yields, the difficulty is overcome, the infant rapidly advancing."

CHAPTER XXII.

RETROFLEXION AND RETROVERSION OF THE UTERUS.

379. When treating of anteversion in the last chapter, it was shewn that the uterus was situated in the middle of the pelvis, resting anteriorly upon the bladder, and by it upheld against the obliquity resulting from the junction of the pelvis and spine. It can easily be understood, that if the position of the uterus be destroyed, either by an alteration in the relative situation of the pelvis, or by the extraordinary distension of the bladder; and if, at the same time, the bulk and weight of the fundus uteri, compared with that of the cervix, be increased, a very slight forcing downward will tilt backwards the fundus; and, if the pelvis be of the full size, the fundus may be depressed below the promontory of the sacrum.

This displacement is called ***retroversion*** of the uterus, and is exactly the opposite of anteversion. It would appear that the ancients were not ignorant of its occurrence,[†] though their views were not very definite; but their successors lost sight of it altogether, and the labors of William Hunter (1754), in this country; Desgranges (1715), and Gregoire (1746), in France; and Richter in Germany, threw a new and more accurate light upon this hitherto obscure displacement. The following is Dr. Gooch's abridgment of the case which first drew Dr. William Hunter's attention to this displacement in the year 1754:—"A poor woman in London, about four months advanced in pregnancy, was suddenly seized with retention of urine. She sent for Mr. Walter Wall, a medical practitioner, who passed the catheter and relieved her; but the impediment continued, and it being again necessary to employ the catheter, Mr. Wall, on this occasion, made an attentive examination, with a view to discover the nature of the obstruction. He passed his finger up the vagina, the course of which, instead of being upwards and backwards towards the sacrum, was upwards and forwards against the pubes. He could not feel the cervix uteri, but he discovered a tumor at the posterior part of the vagina, which on the introduction of the finger into the rectum, was found to be between the gut and the vagina. The lower portion of this tumor being projected towards the pubes, the impediment to the evacuation of the bladder was supposed to be occasioned by its pressure on the urethra. Mr. Wall finding the case of his patient corresponded with the description of retroversion of the uterus, as given by M. Gregoire, endeavoured to replace the uterus, but without success. He then sent for Dr. William Hunter, who, upon examination, found the relative state of the parts to be that which has been just described. On raising the tumor, the urine dribbled away. Dr. Hunter endeavoured to restore the uterus to its natural situation, but failed; there was obstinate constipation; and in a few days the patient died. On examination after death, the bladder was found distended, the cervix uteri was turned upwards and forwards against the symphysis pubis, and the fundus had fallen downwards and backwards into the hollow of the sacrum, where it was so impacted as to be with difficulty dislodged.*

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[*] Practical Observations, part i. p. 232.

[†] Dict. de Sciences Med. vol. xxiii. p. 237, art. Hysteroptose.

380. In very recent times, indeed within the last few years, since so much attention has been directed to the elucidation of female diseases, it has been found that the displacement is not necessarily connected with pregnancy, but may occur at any period of life. By some we are told that retroflexion or retroversion is one of the most frequent disease to which females are subject. With this opinion I cannot agree. I believe that the uterus, especially in women who have had children, has a wider range of position (without inconvenience) than we suppose; and that perhaps these deviations may have been mistaken for disease. In this view I am happy to have the support of

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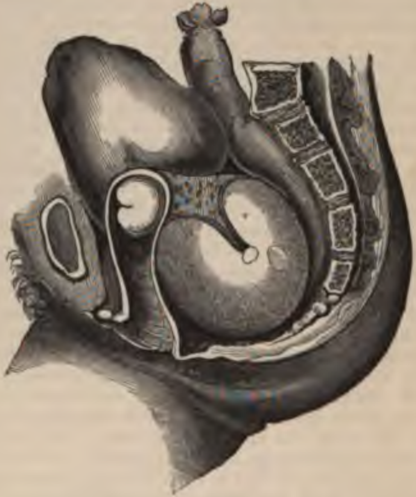
* Gooch's Lectures, edited by Mr. Skinner, p. 117. Dr. Hunter, Med. Obs. and Enq. vol. iv. pp. 338, 400.

Drs. Ashwell, Meigs, Oldham, &c. I have repeatedly inquired of different practitioners of this city, of great observation, and I do not find their experience different from my own.



I shall endeavour to lay before my readers the history of the disease from the writings of Drs. Beatty, Simpson, Smith, Hensley, Lee, &c. and my own observations, premising that there is some little confusion in the meaning attached to the term; some understanding *retroflexion* to be a folding back of the body of the uterus upon the cervix; others, a turning backwards and downwards of the entire uterus. Dr. Simpson considers retroflexion and retroversion to differ in degree only.

381. I. *Retroflexion* or *retroversion* of the uterus, then, may occur at any period after puberty, but it seems much more frequent after child-bearing, or abortion. Velpeau saw 15 cases in which the unimpregnated uterus was thus displaced, but they were after parturition. Dr. Davis thinks that it may be either "congenital malformation, or the result of disease." Dr. Beatty considers that the point of flexion is where the neck and body of the organ join.[*] The cases I have seen

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[*] Dublin Journal, Nov. 1847.

have been cases of retroversion; but when there is much enlargement of the posterior wall, I can easily understand their being mistaken for retroflexion.

382. *Causes.*—The conditions necessary for its production are, 1. some relaxation of the vaginal supports, admitting of depression; 2. an increased weight of the fundus, especially of the posterior wall; and 3. some force acting upon the uterus. Among the causes which increase the weight or bulk of the organ are, fibrous tumors, congestion, hypertrophy, a coagulum in the uterus, &c. The state in which the uterus is left after delivery and abortion, will also favor this displacement, if the patient remain too long in the upright position.

Virchow has explained why retroflexion should occur at the junction of the cervix with the body; on the ground of the anterior wall being thinner at this point than elsewhere, and also from the reflection of the peritoneum forming a line at this part, allowing the upper part of the uterus, unsupported, to bend upon the lower, which is strengthened by its attachments.

383. *Symptoms.*—In some cases, as Mr. Hensley observes, no appreciable symptoms are produced, except, perhaps, a greater flow of the menses, and a greater tendency to abortion in the married female.* It is often very difficult to trace the origin of the affection; it comes on so gradually, that it is only when permanent, and after some time, that it exerts any influence, local or general. In other cases, the patients appear to have had a sensation of depression or falling down of the womb; either suddenly, or gradually supervening, with nausea, vomiting, and sometimes syncope, pain, or dragging down in the groin or sacrum.†

The retroflexion becoming permanent, or increasing, produces occasionally some pain, and difficulty, or frequency in micturition, though never retention of urine. The patients complain likewise of a dull, aching, constant pain in the back, probably from the pressure of the fundus uteri on the sacral nerves. The pain extends down the thighs, and there is a sense of weight in the rectum, with some difficulty in defæcation, as in Dr. Beatty's cases. There is generally profuse leucorrhœa when the disease has existed for some time, and menstruation may be profuse, or painful, or both; but whether as cause or effect, is not easy to decide.

The general health at the same time suffers more or less; the stomach becomes disordered, the bowels constipated, the spirits depressed, and hysterical symptoms often occur. The distress is greatly increased by standing, walking, or any great effort, and the patient is oppressed with languor and weakness.

384. On making a *vaginal* examination, the finger impinges upon a

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* Provincial Med. and Surg, Journal, Jan. 12, 1848.

† Professor Simpson. Dublin Journal, May, 1848.

solid body, blocking up the passage. The cervix uteri may either be found nearly in its natural situation, or more anteriorly; and if we trace back we shall find, by the continuity of structure, that the posterior tumor is the fundus uteri. This tumor may present various degrees of depression, and its junction with the cervix uteri an angle more or less obtuse. I need not say that the tumor formed by the fundus uteri is between the posterior wall of the vagina and rectum. An examination *per rectum* will add further confirmation. But the demonstrative proof is furnished by the uterine sound: when it is passed into the cervix in the usual way, i. e. with the concavity of the curve looking forward, it is immediately stopped; nor can it be passed further until its position is reversed, and its point directed backwards, when it immediately passes into the tumor felt in the pelvis, proving it to be the fundus uteri. Moreover, by turning the instrument gently and gradually round, so as to bring the point upwards and forwards, at the same time assisting the elevation of the fundus with the forefinger of the left hand, we shall find that the tumor disappears, the uterus having resumed its natural situation. This use of the uterine sound generally occasions no pain if care be used, but if handled roughly, much pain and mischief may be the result.

Mr. Hensley remarks, that in the examination per rectum, the pressure of the finger on the fundus above occasions no pain; but if we elevate it, the patient immediately complains; and by passing the finger beyond the depressed fundus, we can discern the exact seat of pain to be the posterior and upper part of the fundus, in the situation of the ovary, which we can often feel as an oval body.

The most important consequence of retroflexion is sterility, it is very unlikely, not to say impossible, that impregnation should take place when retroflexion exists, because of the mechanical difficulties. Dr. Rigby states that retroflexion induces engorgement and chronic inflammation of the ovaries, particularly of the left one. Of thirteen cases, he says the fundus uteri was flexed towards the left in nine, and that it thus presses upon the left ovary, and excites morbid action. It may also co-exist, or give rise to congestion of the cervix uteri, with erosion. A more remote, but distressing result, is the impaired health which gradually follows this displacement.

385. *Diagnosis.*—Mr. Safford Lee has enumerated the following diseases, with which retroflexion may be confounded:*

1. With *retroversion:* from which it may, however, be distinguished mainly by the cervix uteri being directed downwards, instead of forwards to the pubis, and by the angle formed by the bending of the body backwards.

2. With an *ovarian tumor:* but by means of the uterine sound we can ascertain whether the tumor be the uterus or not. There will, of

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* Med. Gazette, June 29, 1848.

course, be a difficulty when retroflexion and ovarian enlargement co-exist, as is the case sometimes; but still we shall be able to isolate the uterus as it were with the sound, so as to ascertain that the excess of bulk is ovarian.

3. With *fibrous tumor of the posterior wall of the uterus.* No examination with the finger could make a correct diagnosis in such a case, because we should find the tumor, and the angle of deflection from the cervix well marked; but the uterine sound will pass in the usual position and direction, which it never will in retroflexion.

386. *Treatment.*—The first question to be solved, is, how far the distress is due to the retroflexion itself, and how much to the persistence of the cause which gave rise to it: the second, is the best way of removing that cause if it still exist: and the third, the safest means of relieving the patient from the effects of the retroflexion. Having already mentioned the causes, the reader will readily find the remedies under their several heads; at present we have chiefly to consider the retroflexion as a permanent displacement. In many cases, I am sure that rest, local blood-letting, astringent injections after reposition of the uterus, &c., will be as effectual as Dr. Beatty found them in his cases; but the rest should be very prolonged, and taken in a horizontal position, lying on the face. The blood-letting may be effected by leeches or scarification, and in addition, the general health must be attended to.

But in cases of extreme deflection and of long standing, although the womb be replaced, it soon falls back, and no ground appears gained. For such we should naturally suppose that some mechanical support is required; and to attain this end, Dr. Simpson has constructed several pessaries, the principle of which is, that a metallic or ivory stem is to be introduced into the uterus, and this being attached to a support below, the womb is thus maintained in its proper position. At first sight, the contrivance seems exactly suited for the purpose, but experience has shown that it cannot always be used with impunity or safety. Dr. Simpson, Dr. P. Smith, Mr. Hensley, Mr. Lee, and Mr. Valleix speak highly of its value; but Dr. Ashwell mentions some cases in which great suffering resulted from its use, and Dr. Oldham mentions others where death was the consequence. Two cases have been mentioned to me, in which the instrument was introduced; but it occasioned such agony, that it had to be withdrawn in both within twenty-four hours. Upon the whole, therefore, I should feel great hesitation in recommending such an instrument, although it must be admitted that some contrivance for this purpose is very desirable. If it be used, the patient should be kept very quiet, very carefully watched, and the instrument removed if it occasion any pain.

I have used a pessary of gutta percha, which by distending the vagina upwards, posterior to the uterus, seems effectually to prevent this again falling back. In several cases I have found it succeed.

M. Amussat has proposed to excite inflammation and adhesion between the posterior surface of the cervix and the vagina, so as to prevent its being carried forward; and he cites two successful cases.*

387. II. *Retroversion.* Let us now consider retroversion as it occurs in the pregnant condition. The disease is not very frequent: it most generally happens whilst the uterus is within the cavity of the pelvis, or before the eighteenth week.

In this displacement, the cervix will impinge upon the urethra somewhere about its junction with the bladder, the posterior lip of the os uteri will become inferior, and the uterus will occupy the pelvis horizontally in its antero-posterior diameter. I was called to a case in which the natural position of the uterus was nearly reversed: the fundus uteri being downwards between the vagina and rectum, and the cervix upwards towards the bladder, but not pressing upon the neck, and admitting of the easy introduction of the catheter. The position of the vagina is peculiar: the posterior wall is depressed, in consequence of the fundus falling between it and the rectum, whilst the projection of the cervix carries forward the anterior wall; its direction, therefore, instead of being from before backwards towards the sacrum, is really upwards and forwards to the symphysis pubis.

The amount of backward depression may vary a little, but, to constitute retroversion, the fundus must be below the promontory of the sacrum.

It may occur either suddenly or gradually, according to the character of the exciting cause.

388. *Causes.*—Jourdan considers a large pelvis, and the too great prominence of the sacral promontory, as predisposing causes; and he also remarks, that thin women are more liable to it than fat ones. Prolapse of the posterior wall of the vagina may affect the perpendicularity of the uterus. Amongst the more direct causes are those which relax the inferior supports of the uterus and render the fundus uteri disproportionately heavy, and consequently the balance of the uterus easily disturbed; such, for instance, as early pregnancy, moles, a tumor† whether pediculated or not, and extra uterine pregnancy.‡ I have known retroversion to happen the first day of a menstrual period, when the weight of the uterus was increased by the afflux of blood. Dr. Bond mentions a case which occurred a few days after delivery, and another in which the uteri being enlarged, the operation of a cathartic produced the displacement.§ Mr. Pearson and Dr.

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* Gazette Med. March, 1850.

† Brown: Dub. Journal, Jan. 1838, p. 356.

‡ Med. Chir. Rev., Jan. 1827, p. 207.

§ American Journal of Medical Sciences, April, 1849, p. 401.

Blundell met with cases of retroversion caused by scirrhus.* Callisen and Blundell mention cases where this accident followed delivery; but such must be exceedingly rare. The important consequences resulting from effects of a distended bladder have already been mentioned; in the majority of cases, it will be found that the urine has been retained for many hours. Dr. Blundell* says that an enlarged ovary may act in the same manner; and I have seen similar effects produced by a large tumor in the upper part of the pelvis.

When any one or two of these conditions co-exist, it then only requires some force pressing the contents of the pelvis suddenly downwards and backwards to complete the retroversion; and this is generally afforded by violent efforts at lifting weights, vomiting, or evacuating fæces. A fall or blow may also give rise to it.†

If the uterus be once partially retroverted, the symptoms (bearing down, &c.) which result will speedily complete the displacement.

389. *Symptoms.*—Nauche says that retroversion may happen without giving rise to any symptoms: but that such cases must be very rare, a consideration of the mechanical disturbance alone will convince us.‡ Capuron observes, that as some time elapses before the accumulation

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* Pearson on Cancer, p. 113. Blundell: Diseases of Women, p. 18.

† "A lady, laboring under ovarian dropsy, was recommended to take a ride in an open carriage every day, for the improvement of her health, taking the air as much as might be, without occasioning much fatigue. In one of these excursions the vehicle chanced to be turned over, and she was thrown out with violence, her abdomen striking, with great force, against a stone that was lying by the road-side. On her return home, a very copious secretion from the kindeys ensued, with great abdominal pain; when, in the course of a few days, she recovered, and found herself entirely liberated from the dropsy. Some time afterwards she entered into the married state, and died with an irreducible retroversion of the uterus, about the fourth month. Inspection was made, when it appeared clearly, that in consequence of the fall there had been a rupture of the ovarian cyst, and a flow of water into the peritoneal sac; whence it was absorbed and effused by the kidneys, the remains of the cyst falling on the uterus, and carrying it down below the promontory of the sacrum, and being retroverted, was fixed by inflammatory adhesion in the retroverted position. While this unhappy lady remained unmarried, she felt but little inconvenience, but marrying, and the enlargement of the uterus taking place, the womb, in consequence of adhesion, not admitting of replacement, a fatal pressure of the contiguous parts ensued."—*Blundell on Diseases of Women*, p. 6.

‡ Dugès: Nouv. Dict. de Med. et de Chir. pratique, art. Retroversion.

§ Mal. prop. aux Femmes, vol. i. p. 106.

of urine becomes distressing, the symptoms during that period will be much slighter than subsequently.[*]

The most distressing symptom, that which first attracts the patient's attention particularly, and the one on account of which we are consulted, is a partial or complete retention of urine.

"I wish it to be understood, however," Dr. Blundell observes, "and very important it is that this should be known, that, in the retroversion of pregnancy, you have not always, nor, I think, generally, these *complete retentions* of urine; for, often where the uterus is retroverted, the retention is partial." "Day after day the fluid is sparingly emitted, but never in such quantity as to empty the bladder completely, till by and bye perhaps the secretion begins to steal away involuntarily, or she may have strong efforts to pass the urine, even against her will, and with every effort a small gush only may be produced, or there may be a continual dripping; and yet, notwithstanding all this, an accumulation of water may go on very gradually, so that several pints, nay several quarts, may be gradually accumulated. At this time, there may be œdema of the lower limbs, especially if your patient be in a state of gestation; and you, for the case is extremely deceptive, finding that the legs are œdematous, that the abdomen is large, as in the case of ascites, that it is fluctuating with distinctness, and that the patient, instead of having a retention of urine, on the contrary, supposes herself to labor under an incontinence of water, the retention of the secretion may be the last disease which you suspect, and you are inclined to ascribe all the symptoms to ascites, ovarian dropsy, dropsy of the ovum, or other causes. If you err, nothing is done, and the bladder may burst. Even when the bladder is emptied, chronic disease is to be expected, or there may be a fatal inflammation, or a miscarriage. In cases of this kind, the urine may continue to accumulate for three or four weeks together."[†] It is important to remark, that an examination, *per vaginam*, should never be omitted in a case of dysuria occurring in early pregnancy. If the retention have continued for some time, the distended bladder may be felt rising above the brim of the pelvis. The pressure of the fundus uteri upon the rectum, more or less completely arrests the passage of the fæces through that intestine, and we find either constipation or a difficulty in going to stool.

Dr. Hunter observes, that all the cases he had seen "happened about the third month, sooner or later, and they all brought on a difficulty, and gradually a suppression, first of urine, and then of stools likewise." "When such suppressions once begin, they aggravate the evil, not merely by causing pain, but by occasioning a load of accumulated urine and fæces in the abdomen, above the uterus, which presses it still lower in the cavity of the pelvis, at the same time that the distension of the bladder in this state draws up that part of the vagina and cervix uteri with which it is connected, so as to throw the fundus uteri still more directly downward."* In Dr. Marcet's† case, constipation and vomiting were prominent symptoms.

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[*] Mal. des Femmes, p. 285.

[†] Diseases of Women, p. 7.

The patient complains of a weight and fulness in the pelvis, a dragging from the loins, and a constant effort at forcing down, resembling labor pains, and exciting fears of abortion. This distressing state cannot continue long without exciting severe and formidable constitutional suffering. The patient loses her appetite, complains of violent pain, the pulse becomes very quick, fever sets in, with thirst, loaded tongue, hot skin, restlessness, &c. The action of the intestines is sometimes inverted, and a vomiting of stercoraceous matter takes place. If the distension of the bladder be not relieved, the walls will give way, and its contents, discharged into the peritoneum, will excite fatal peritonitis.‡ But if just so much urine escapes as will prevent this frightful termination, the patient's life may be compromised by the fever, or ultimately by inflammation of the uterus, and by gangrene.§

"Retroversion of the uterus," says Dr. Gooch,‖ "may terminate fatally by one of three modes; either by irritation, by inflammation, or by sloughing of the bladder. In the first instance of this kind which I ever saw, death was produced by inflammation. The patient was in the fourth month of pregnancy. She had been suffering from retention both of urine and fæces nine days, and her abdomen was immensely distended. The village apothecary had been giving her nitrous æther as a diuretic. I introduced the catheter, by keeping the point close against the pubes, and drew off several quarts of urine, with which were mixed puriform and bloody streaks. She suffered great pain in the region of the bladder, accompanied with the usual ymptoms attendant on inflammation; but, in spite of bleeding and purgatives, she died. On examination, the uterus was found to participate in the inflammation of the bladder; it was still retroverted, though labor pains came on, and she miscarried soon after the urine was drawn off."

If an *internal* examination be made, the direction of the vagina will be found to be forwards to the pubes, instead of backwards to the sacrum; the posterior wall is thrown into folds, whilst the anterior is more upon the stretch; behind the posterior wall, between it and the rectum, a large tumor may be felt, continued across the pelvis, and terminating anteriorly against the pubes—this is the uterus. It is rarely possible to pass the finger beyond the lower surface of the uterus.

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* Medical Observations and Enquiries, vol. iv. pp. 406, 407.

† Cooper on Hernia, part ii. p. 60.

‡ Blundell on Diseases of Women, p. 19, *note.*

§ Capuron: Mal. des Femmes, p. 286.

‖ Lectures on Midwifery, &c. edited by Mr. Skinner, p. 119.

Some difficulty will be found in attempting catheterism; it will be necessary to keep the point of the instrument close to the symphysis pubis, and to be exceedingly gentle in pressing it forwards. In some cases, it has been found impossible to complete this operation.

The size of the womb will depend upon its being empty or not, and upon the period of gestation, if impregnated.

A *post-mortem* examination reveals the displacement, and in addition, the cause of death, whether that be the inflammation of the bladder and uterus, or rupture of either, and consequent peritonitis.

390. *Diagnosis.*—The most characteristic symptoms have already been stated to be the sudden and more or less complete retention of urine, and the constipation. These ought always to lead to an examination, and then the mechanical cause (the displacement) will be detected.

1. From *anteversion.* The os uteri is anteriorly instead of posteriorly, and there is retention of urine more or less complete.

2. From *pelvic tumors.* At first this distinction is not easy, but if we can find the os uteri, and then trace the uterus, we can make out whether it is retroverted or not. We may often also distinguish the retroversion from the pelvic tumors, when they co-exist. Pelvic tumors do not often occasion retention of urine, except when they are too large to be mistaken for retroverted uterus. Nauche relates a case which was supposed to be retroversion, and in consultation about which, it was determined, as a last resource, to puncture the uterus, all efforts at reposition having proved unavailing. The patient died, and upon examination it turned out to be a case of extra-uterine fœtation: the sac containing the fœtus having descended into the pelvis. A fistulous communication had taken place naturally between this tumor and the rectum. In such cases, a correct diagnosis must be very difficult of attainment; happily, they are very rare.*

These observations will also apply to the distinction between retroversion of the uterus and ovarian dropsy; but in addition, the gradual growth of the latter is opposed to the suddenness with which the former is produced.

3. The distended bladder might be mistaken for *ascites*, but its sudden production, defined shape, and, above all, catheterism (when possible) will mark the distinction.

391. *Treatment.*—All writers agree in the *first indication*, viz. to restore the uterus to its natural position: this, however, is not easy in most cases, nor is it to be attempted in the first instance; we must

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* Mal. prop. aux Femmes, vol. i. p. 108.

previously introduce the catheter if possible, and draw off the water. If the uterus be not so large as to fill the pelvis tightly, it may in many cases right itself if the water be drawn off at short intervals, and that in some cases where it has been found impossible to replace it except by using a doubtful amount of force.* Thus Dr. Hunter remarks, "After the case was suspected, from the suppression of urine, and then certainly known by the examination with the finger, both in the *vagina* and *rectum*, the urine was first completely drawn off by the catheter; then a sufficiently stimulating clyster was thrown up; and after the bowels were well emptied, it was always found easy to replace the *uterus*. In one instance, the *uterus* of itself recovered its natural situation, immediately after the above-mentioned evacuations had taken place. In another case, there were several relapses before the uterus grew so large that it could no longer fall back."† And Dr. F. Ramsbotham has given the details of eight cases in which the womb righted itself, when the bladder was kept empty, without the use of any other means. In addition to keeping the bladder empty Drs. Blundell and Duncan advise that the woman should be placed on her knees and elbows for some hours each day.

Suppose however that this plan should fail and the uterus remain retroverted it is clear that we cannot leave matters in this state, for after a short time the increase of the uterus will fix it so firmly in the pelvis that it cannot be moved, and the pressure upon it and upon the organs will certainly compromise the life of the patient. In such a case we must first enquire if there be evidence of inflammation going on in the uterus or neighbouring parts, as is sometimes the case, and if so, it may be well to take away some blood from the arm, and to foment the external parts, or prescribe a hip-bath before attempting a reposition of the uterus. After this preparation, or without it, if it be unnecessary, one or two fingers of one hand are to be then introduced into the vagina or rectum, for the purpose of elevating the fundus, and of the other into the vagina, for the purpose of depressing the cervix.‡ When one finger into the rectum is insufficient, it has been proposed to pass the whole hand; but it may be questioned whether mischief rather than good would not result from so violent a proceeding. The uterus must be pressed forward, and then upward, in order to clear the promontory of the sacrum.[*] Others conceive that the fingers introduced into the vagina, and directed towards the sacrum, would be able in some cases to elevate the fundus.

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* Ingleby's Facts and Cases, p. 67.

† Dr. Hunter's remarks on Mr. Wall's case, in Med. Obs. and Enq. vol. iv. p. 408.

‡ Lyne's case in Med. Obs. and Enq. vol. iv. p. 388. Becher in Stark's Archiv. für die Geburtshülfe, p. 136. Kratzenstein's inaugural thesis, published at Copenhagen, 1782. Vermandois: Journal de Med. vol. 85. Mursinna: Abhandlung von den Krankheiten der Schwängern und Gebärenden, vol. i. p. 58. Haselberg: Untersuchungen und Bemerkungen ueber einige gegenstande der pratischen Geburtshülfe, p. 109.

It is very difficult to pass the finger beyond the cervix uteri in the vagina, so as to hook it down; and it appears to me that we should be fully justified in using a pair of hooked forceps. I am not aware that this plan has been tried, but it seems to meet one very desirable object, viz. the being able to depress the cervix prior to the elevation of the fundus: if this could be done, there would be little difficulty in the remainder of the operation.

Dugès[†] recommends the introduction of a sound into the bladder, as an assistance in depressing the cervix.

392. To obviate the necessity of introducing the hand, and as a means far more effectual for the reduction of the retroversion, Mr. Halpin of Cavan has proposed the introduction of a bladder into the vagina, and its inflation by means of a stomach-pump with an air tight piston. He tried it, in a case where reduction by other means was impossible, with perfect success. It is a method which should undoubtedly be tried, before extreme measures are adopted. I give the following extract from the case in which it was employed: after fruitless efforts with the hand, "It suddenly occurred to me," says Mr. Halpin, "that *with the assistance of the bladder I should be able to inflate the pelvis, and thus raise its contents into the abdomen.* We acted on this suggestion. I attached a small recent bladder to the tube of a stomach-pump, with an air-tight piston, and having immersed it for a few moments in warm water, to bring it to the heat of the body, I introduced it empty into the vagina, between the fundus of the uterus and the rectum. Retaining it within the vagina, by holding my hand firmly across its orifice, Dr. F. inflated it slowly and steadily. After a time she complained of tension or bursting, but no pain. We then ceased throwing air into the bladder, allowing what was in already to remain, keeping up, as it did, a steady, equal, well-directed pressure in the tumor. After the expiration of five minutes, we threw more air into the bladder, when the patient exclaimed slowly, 'Oh, now you are forcing something up to my stomach!' I retained the bladder some time longer in its situation, and then, previous to withdrawing it, permitting the escape of some air, I introduced my finger, and had the satisfaction of finding that the tumor was no longer in the pelvis, and that the os uteri lay within reach of my finger, pointing downwards and backwards. I then, and not till then, removed the apparatus."[‡]

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[*] Dict. des Sciences Med. vol. xxxiii. p. 277. Ingleby: Facts and Cases, &c. p. 69.

[†] Nouv. Dict de Med. et de Chir. prat. art. Retroversion.

[‡] Halpin on Retroversion of the Uterus, Dublin Journal, March, 1840, p. 76.

M. Favrot has proposed for the same object the introduction of an india rubber bottle into the rectum, and its inflation afterwards. I think it would be more easy of application than Mr. Halpin's method, and I should suppose equally successful. In either case the bladder might be worn for some days to prevent a relapse.*

Dr. Bond invented an instrument consisting of two curved branches, one to pass into the rectum, the other into the vagina; the former longer than the latter, and both with a button on the extremities. The vaginal blade can be lengthened or shortened as the case may require. By this instrument pressure can be made upon the fundus through the rectum, and upon the os uteri; and Dr. Bond succeeded in replacing the uterus with considerable ease.†

When once the fundus uteri has passed the promontory of the sacrum, the uterus is felt to assume its proper position freely. There is generally a good deal of local and general irritation afterwards. The vagina is hot and tender, the uterus may become inflamed, and the pulse quick, with thirst, &c.; but antiphlogistics, opiates, and quiet, will easily remove these symptoms. "When the reduction of the uterus has been effected, you should direct your patient to continue in bed for two or three weeks. If there be any disposition to a return of the retroversion, you should advise her to place herself on the knees and elbows, once or twice in the day, for an hour or more at a time; and you may direct her also to empty the bladder repeatedly in the course of twenty-four hours, never suffering any large accumulation of urine to take place."‡ As she is assumed to be pregnant, all danger of a relapse will be over when the uterus rises above the brim of the pelvis, and she may then resume her usual occupation; but if she be not pregnant, a longer rest will be necessary.

393. In the case we have just described, the means are supposed to have succeeded, though with difficulty; but there are other cases where the obstacles appear insuperable.

1. It has been found impossible to pass the catheter; and in such a case it has been proposed to puncture the bladder, to avoid the fatal consequences of rupture. Cheston succeeded once in this way. Pressing the uterus backwards will occasionally liberate the urethra, and allow the catheter to pass.

2. Notwithstanding the evacuation of the bladder, all our efforts to replace the uterus in its usual position are sometimes unavailing, because of the bulk it has attained. This only happens with pregnant women, and especially with those in whom the retroversion continues for some time, before relief is sought. In such cases we are advised to pass a sound through the os uteri (if possible), in order to induce

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* Dublin Journal, May, 1852, p. 387.

† American Journal of Medical Sciences, April, 1849, p. 408.

‡ Blundell on Diseases of Women, p. 14.

abortion, and so diminish the size of the uterus by evacuating its contents. "In retroversion of the uterus requiring special treatment, it would not, perhaps, be impossible to introduce some small, yet strong instrument into the cavity of the uterus along the mouth and neck, so as to break up the structure of the ovum, and in that way to give rise to its expulsion. It is very easy to conceive, that if the os uteri could be felt, and if an intrument could be carried into it, with which the ovum could be broken in pieces, expulsion of the ovum might ensue."* Or, if this be impossible, we are advised to puncture the uterus, by means of a trocar, either from the vagina† or from the rectum. "The following question," says Dr. Hunter, "arises from the nature and unhappy event of this case (the one under Mr. Wall's care, quoted before.) Whether it would not be advisable, in such a case, to perforate the uterus with a small trocar, or any other proper instrument, in order to discharge the liquor amnii, and thereby to render the uterus so small and lax as to admit of a reduction? If other methods should fail, I think such an operation should be tried."‡ This operation has been performed twice with success.

"In a case of retroversion of the uterus, where the catheter could not be introduced, nor the rectum emptied, I should feel myself inclined to consider the propriety of tapping the uterus, which might perhaps be found, on the whole, to be as desirable an operation as tapping the bladder, or the dividing of the symphysis pubis. I should not like a great trocar and canula, as if I were going to tap in a case of ascites, wounding a great many vessels, and perhaps occasioning death; but I should prefer an instrument of a very small size, by which I could perform a sort of acupuncturation. Perhaps an instrument on the principle suggested might be introduced into the uterus without much danger; and then, if a contrivance were fixed upon the other end of it, so as to bring away the fluid by a sort of suction, it may be that a good deal of the liquor amnii might be drawn off. If the uterus was thus evacuated of the liquor amnii, there would immediately be a considerable reduction of its bulk, and perhaps at length an expulsion of the ovum. The womb might be tapped either from the vagina or the rectum; but vaginal tapping would, I conceive, be preferable."§

3. In these impractible cases, Callisen suggested the operation of gastrotomy, for the purpose of directly seizing and replacing the uterus. He, Purcell, Gardien, and Cruikshank, also advise division of the symphysis pubis, as affording more room for the reposition of the displaced viscus.

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* Blundell on Diseases of Women, p. 16.

† Ingleby's Facts and Cases, p. 75.

‡ Med. Obs. and Enquiries, vol. iv. p. 406.

§ Blundell on Diseases of Women, p. 15.

CHAPTER XXIII.

PROLAPSE OF THE UTERUS

394. VARIOUS are the terms which have been used to designate this displacement. Prolapsus, Procidentia, or Descensus Uteri, are the most common among the learned, and 'falling down of the womb,' 'bearing down,' among the common people.

It consists simply in a depression of the uterus below its natural level in the pelvis. It is therefore of great importance that we should ascertain and be familiar with the natural situation of the womb. "In the healthy unimpregnated state of these parts," says Sir C. M. Clarke,* "the uterus is situated nearly in the centre of the cavity of the pelvis, the distance of the os uteri from the os externum being about four inches. The os uteri is not a continuation of the same line with the vagina, but it terminates in the vagina by projecting into it, the outer surface of this projection being covered by a portion of the inner membrane of the vagina." The body of the uterus is *apparently* supported by the lateral ligaments, whilst the cervix rests upon the vagina, and, as is evident, cannot descend except by pushing the vagina before it, or passing itself into the canal of the vagina. The ancients doubted the possibility of the occurrence of prolapse, on account of what they deemed the strong support afforded by the ligaments. We not only know that the disease is one of frequent occurrence, but it is even doubted whether the aforesaid ligaments contribute in any degree to prevent displacement.

It occurs in all ranks, and most frequently in females beyond the middle age, who have borne children. The more numerous the children, the more are the passages in a condition favorable to the displacement of the pelvic contents. It is often a consequence of laceration of the perineum. I have seen it however in women who have not borne children, and in maids.† Dr. Alex. Monro has related a case, occurring in a child of three years of age.‡ It happens frequently to women after their first confinement, and disappears after the second altogether, owing to the greater or less care bestowed upon their convalescence after parturition.

"Every degree of procidentia uteri may be met with, from that case in which the os uteri descends a little lower than its natural situation, to that in which the os uteri projects through the external parts, dragging with it the vagina, and forming a large tumor between the thighs of a woman, equal in size to a large melon. This will cause an alteration in the relative situation of the parts within the pelvis and of the abdominal viscera, both regarding each other, and also the containing parts, as the parietes of the abdomen and the bones of the pelvis. The bladder, instead of being contained in the pelvis, falls down into the external tumor, dragging with it the meatus urinarius; so that in order to introduce a catheter into the bladder, the point of the instrument must be turned towards the knees of the woman; for, being placed in the usual manner in which that instrument is introduced, it will enter the passage, but it cannot be made to pass into the bladder in that direction. The rectum, instead of taking the sweep of the sacrum, first dips down into the posterior part of the tumor, and afterwards ascends into the pelvis. The fallopian tubes and ovaria will, of course, be dragged down with the uterus, and the centre of the tumor will be filled up by the small intestines which hang down into it (the mesentery being stretched); whilst the omentum will occupy any vacant space which may be left."*

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* Diseases of Females, vol. i. p. 66.

† Mal. des Femmes, p. 301. Kendrick: Medical Gazette, August, 13, 1836, p. 774. See also Knox: Med. Chir. Review, January, 1830. Dewees: Diseases of Females, p. 235.

‡ Edinburgh Medical Essays, vol. iii. p. 282.

Some authors have adopted the division made by Astruc† into three degrees. 1. Depression of the uterus, or incipient procidentia—where the os uteri is felt to be lower than usual in the pelvis. 2. Procidentia—when the os uteri rests upon the perineum, and the body of the uterus occupies the cavity of the pelvis. This is the most frequent, as it may be years before it protrudes through the os externum. 3. Prolapsus—when the uterus is completely protruded through the external orifice of the vagina, everting the bladder and vagina.‡

The distinction proposed by Manning is, however, sufficient, as it is not always easy to distinguish between the depression and procidentia. "The disease has been commonly distinguished into the *perfect* and *imperfect prolapsus.* It goes by the former of these names, as long as the uterus, though advanced considerably downwards, continues to remain within the cavity of the vagina; and by the latter, when it has descended below the orifice of that canal, so as to appear entirely without the pudenda."§

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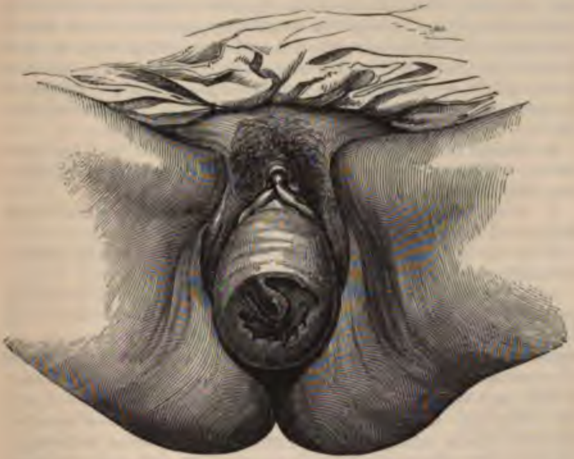
* Clarke on Diseases of Females, vol. i. pp. 67, 68.

† Diseases of Females, vol. ii. p. 202.

‡ Denman, Burns, and F. H. Ramsbotham, call the second degree of displacement, prolapsus; and the third, procidentia. Denman's Midwifery, p. 64. Burns' Midwifery, p. 127. Ramsbotham's Lectures in the Medical Gazette. Davis designates the first degree, delapsion; the second, prolapsion; and the third, procidentia of the uterus.—*Obstetric Medicine*, vol. i. p. 526.

§ On Female Diseases, p. 277. Nauche and other French writers treat only of two degrees, "*relachement*" and "*descente.*"

395. We shall therefore consider *imperfect prolapse*, or *descent*, and *perfect prolapse*, or *procidentia*,* and we shall find that the symptoms of each differ little, except in intensity. Either degree of depression may occur under the following circumstances:—1. the uterus being of a natural size, and having never been impregnated.†



2. The uterus being unimpregnated, but laboring under certain diseases which augment its volume and weight, such as fibrous or polypous tumors, moles, hydatids, scirrhus, &c.

3. In early pregnancy, from the additional weight of the uterus. Dr. Gruhn of Reppen relates the case of a woman, æt. 28, who, when in the fourth month of pregnancy, in consequence of a violent effort, had a prolapse of the uterus; gestation, nevertheless, went on without any accident to the full time. When Dr. G. saw her, thirty-six hours had elapsed since labor had set in, and twenty-four since the waters had been discharged. The uterus hung between the patient's thighs.

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* Ed. Med. Essays, vol. ii. p. 263. Ed. Med. and Surg. Journal, vol. xii. p. 215.

† Prolapsus from stone in bladder, Med. Obs. and Enquiries, vol. iii. p. 1.

The vertex of the child presented, and the neck of the uterus was dilated to the size of a two-franc piece. Not being able to obtain a greater dilatation, Dr. G. made an incision, one inch in length, in one side of the neck of the uterus, and a dead but well-developed child was extracted. The delivery of the placenta was attended with very profuse hemorrhage, which was arrested by injections of cold water. Afterwards the uterus was reduced, and every thing went on well. Dr. S. Tyler relates that he attended a case in which the uterus was prolapsed, the woman being five months pregnant; but at what period the prolapse occurred he does not say. The uterus was returned after delivery.* Other cases of the same kind are on record.†

4. During labor, if the pelvis be very wide, and the labor pains violent.—(*Ducreux*;‡ *Leake*;§ *Nauche*;‖ *Sabatier*; *Capuron*;¶ *Portal*; *Shaw*;** *Merriman*; *Dr. Davis*; *Haughton*.††)

5. At some period after delivery. Complete prolapse is much more frequent at this time than any other.

6. It has been occasioned by disease of adjacent parts; by ascites; diseased ovary; tumor near the pudendum.‡‡

396. *Causes.*—There has been a difference of opinion as to the proximate or pathological cause of this displacement. Sir C. M. Clarke observes:—"The immediate causes of this disease are. 1. Relaxation of the broad and round ligaments above. 2. A want of due tone in the vagina below. By the first, the uterus is permitted to fall; and by the second, the uterus is allowed to be received into the cavity."§§ Astruc, Manning, Leake, Gardien, &c. are silent upon the first of these causes, and very recently Dr. Hamilton, of Edinburgh, has denied its existence. After objecting to the influence attributed by many writers to the expansion of the peritoneum, he continues:—"It is evident that the bladder, the vagina, the rectum, and more especially the muscles lining the pelvis, and those connecting the lower part of the trunk and the inferior extremities, mainly contribute to

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* New York Journal of Medicine, July, 1850.

† Medical Repository, 1797. American Journal of Medical Science, 1846.

‡ Mem. de l'Acad. de Chir. de Paris, vol. viii. p. 393.

§ Diseases of Women, p. 129.

‖ Nauche: Mal. prop. aux Femmes, vol. i. p. 76.

¶ Mal. des Femmes, p. 199.

** Mem. of Med. Soc. vol. i. p. 113.

†† Dublin Journal, May, 1853.

‡‡ Wagner. Biblioth. Med. vol. xiii. p. 114.

§§ Diseases of Females, vol. i. p. 72.

See also Die ursachen und hulfsanzeigen der unregelmässigen und schweren Geburten, von Dr. J. Osiander, Tubingen, 1833, vol. iii. p. 130.

hold the uterus in its natural position." "It will be found that, in every case of prolapsus uteri, the vagina, or bladder, or rectum, or muscles lining the pelvis, or filling up its outlet, are debilitated or lacerated, and therefore the relaxation of the peritoneum and its productions (the ligaments of the uterus) is the effect of prolapsus, and not its cause." "Cases of prolapsus in virgins, it may be alleged, furnish an objection to this reasoning." "Such cases may be easily explained. The accident in those cases is the effect of a sudden exertion in moving the body, at a time when the usual supports of the uterus are relaxed, viz.: during menstruation: while that process goes on, every part connected with the uterus feels flabby and open to the woman herself, and any violent action of the locomotive muscles, as in leaping, or dancing, or running, must occasion displacement of the uterus, in the same way that it would force out a portion of the intestine, if the abdominal muscles were weakened at their ring."*

Speaking of incipient prolapse, Boivin and Dugès† remark:—"This condition is undoubtedly the result of considerable extension of the superior ligaments and the vagina; but it is wrong to refer this effect exclusively to the latter organ. Those who have considered it merely as a weakness of the vagina, ought to have been undeceived by the numerous cases in which the lax and extensible condition of this canal does not lead to prolapsus: and by those in which the upper part of the vagina, without being dilated, is propelled through the lower. The broad ligaments, almost entirely membranous, are of little influence in supporting the uterus, as is proved by the facility with which they are expanded during pregnancy. The round ligaments, on the contrary, clearly resist any considerable descent, and especially, the inclination backward, inevitable in semi-prolapsus. These are necessarily lengthened by morbid relaxation, especially in complete prolapsus; but in incipient prolapsus, they are not stretched further than their length and bend permit. The only plausible explanation, then, of incipient prolapsus, is the relation of the utero-sacral ligaments, which is of course much greater still in the two other degrees, since the uterus moves forwards as well as downwards. These ligaments then entirely disappear, their muscular fibres shrivel, and the peritoneal fold which covers them is unfolded, in order to stretch over the adjoining parts."

Dr. Davis's‡ opinion is equally opposed to the views propounded by Dr. Hamilton; for he says, when speaking of the causes of descent of the womb:—"The proximate cause, as it appears to the author, can scarcely be other than a reduced power, by whatever previous cause produced, of the suspensory ligaments of the uterus, not necessarily accompanied by a state of relaxation of the vaginal parietes. In the opinion of some writers, the latter circumstance should be deemed, of itself, a sufficient proximate cause of prolapsion of the uterus. But is such a doctrine entitled to the praise even of verisimilitude? An organ susceptible of development to an almost indefinite extent, as the vagina is, can scarcely have been intended to maintain a degree of contractedness sufficient to enable it to sustain the uterus in any given position. Add to this consideration the fact, that the vagina is actually most ample, where the hypothesis now questioned requires it should be most contracted. And there is yet another important circumstance to be taken into the account, viz. that the vaginal passage, in more than one class of adult subjects, is never devoid of an amplitude, which, in the author's opinion, must render it totally incompetent to sustain the office allotted to it by this very unsatisfactory hypothesis." "Prolapsion of the uterus is, therefore, much more probably and frequently the effect of relaxation, or of rupture, or of diminished power under some form or other, or of its proper suspensory ligaments, than of any supposed state of relaxation of the vagina."

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* Pract. Observ. pp. 11, 12.

† Diseases of the Uterus, p. 43.

‡ Obstetric Medicine, vol. i. pp. 524, 525.

Dr. Blundell observes, "When the vagina is closed in the natural degree, there is little risk of these accidents; but if there be much vaginal relaxation, whether this arises from mucous discharges, or from floodings, or from frequent child-birth, or from other causes, this dilatation contributes greatly to the descent of the viscera; for the smallness of the vagina is a principle security against these troublesome displacements." "Another cause is the elongation of the broad ligaments, which may become stretched so as to allow of a more extensive movement of the womb, which they ought to retain in connexion with the sides of the pelvis." "Therefore, among the more immediate causes of these descents of the pelvic viscera, you may enumerate the following as of principal and proximate operation: the conformability of the parts, derived from a frequent descent; the elongation of the broad ligaments; and the relaxation of the vagina; more especially when they are acting in co-operation with an unusually large pelvis."*

M. Retzius denies that it arises from relaxation of the lateral ligaments and upper part of the vagina, and attributes it to the distension, by the descent of the bowels, of the inflections of the peritoneum which are to be found on each side of the womb.†

Professor Hohl‡ thinks that it results from diminished vital power, and not from relaxation of the ligaments or vagina.

The state of the vagina is probably the chief cause. After many child-bearings, both the canal and its orifice remain much dilated, and the walls are less resisting than before. Similar effects are said to result from repeated uterine hemorrhage, menorrhagia, leucorrhœa, and from a general weakness of the system.

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* Blundell on Diseases of Women, p. 26.

† Schmidt's Jahrbuch, No. 9, band 51, heft 3, 1846.

‡ Zeitschrift fur Geburtskunde. Ranking's Abstract, vol. ix. p. 190.

Now, if at the same time, the uterus be increased in weight by congestion, hypertrophy, fibrous growths, &c. or by imperfect recovery from abortion or child-bearing, we have the two essential elements of prolapse: the rapidity of its progress will vary in different cases. In most, probably, the first stage is slow and gradual; the uterus descending as the parts yield, but it may, and often is, hastened by sudden downward force, as in sudden movements, lifting weights, forcing, vomiting, coughing, &c.

Dr. Heming mentions having seen prolapsus caused by ascites.* M. Lisfranc conceives that congestion of the uterus is almost always the cause of depression of the uterus.† Women with large-sized pelves, or with congenital shortness of the vagina, are more liable to this displacement. Jourdan remarks that it is more frequent in thin than in fat women.

397. *Symptoms.*—These are principally *mechanical*, arising from the pressure of the prolapsed uterus upon other organs; from their being involved in the displacement; or from the *sympathies* of other organs with the uterus. It is very remarkable how little prolapse interferes with the uterine functions. Menstruation, though sometimes disturbed, is perfectly regular in the majority of cases, and rarely mixed with hemorrhage; and not only is there no impediment to impregnation, so long as the uterus is retained or can be returned into the vagina, but there is more than one case on record where impregnation was effected, although the prolapse was irreducible.‡

The degree of inconvenience caused will generally bear some relation to the amount of the displacement, although even a slight degree of descent will sometimes be marked by considerable suffering, dependant probably upon the idiosyncrasy of the patient. She complains of a sensation of fulness in the pelvis, of weight and bearing down, and dragging from the loins and umbilicus. There is more or less pain in the back, extending round to the groins. This, with the dragging sensation, has been attributed to the stretching of the uterine ligaments. The patient suffers great distress from attempting to stand or walk, and is much worse in the evening than in the morning.

If the womb descend to the external orifice, and more especially if it protrude, there is a degree of difficulty in voiding urine and fæces; indeed, in some cases, the former can only be accomplished by lying down, and returning the uterus to its natural situation.

In procidentia (complete prolapse) of the womb, it is remarkable accompanied by a state of relaxation of the vaginal parietes. In the opinion of some writers, the latter circumstance should be deemed, of itself, a sufficient proximate cause of prolapsion of the uterus. But is such a doctrine entitled to the praise even of verisimilitude? An organ susceptible of development to an almost indefinite extent, as the vagina is, can scarcely have been intended to maintain a degree of contractedness sufficient to enable it to sustain the uterus in any given position. Add to this consideration the fact, that the vagina is actually most ample, where the hypothesis now questioned requires it should be most contracted. And there is yet another important circumstance to be taken into the account, viz. that the vaginal passage, in more than one class of adult subjects, is never devoid of an amplitude, which, in the author's opinion, must render it totally incompetent to sustain the office allotted to it by this very unsatisfactory hypothesis." "Prolapsion of the uterus is, therefore, much more probably and frequently the effect of relaxation, or of rupture, or of diminished power under some form or other, or of its proper suspensory ligaments, than of any supposed state of relaxation of the vagina."

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* Boivin and Dugès: Diseases of the Uterus, p. 44, (*note.*)

† Mal. de l'Uterus, p. 256.

‡ Burns' Midwifery, p. 134. Jalouset · Jour. de Med. Chir. et Par. vol. xliii. p. 366.

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In procidentia (complete prolapse) of the womb, it is remarkable uterus, being attacked with gangrene, separated completely, and came away, yet the patients recovered. "A lady, somewhat advanced in life, who had suffered a long time from procidentia uteri, found the organ completely prolapsed after a shaking drive in a carriage. M. Elmer having been summoned, found his patient attacked by fever, pain in the stomach, weakness, and great pains in the limbs. The displaced uterus had acquired an enormous size, it was black, exhaled a fœtid odour, and had all the appearance of the first stages of gangrene. "Three days afterwards, the separation of the uterus commenced, and in a few days it came away entirely; the fever and pain ceased, the patient's strength returned, and she recovered her health."[*]

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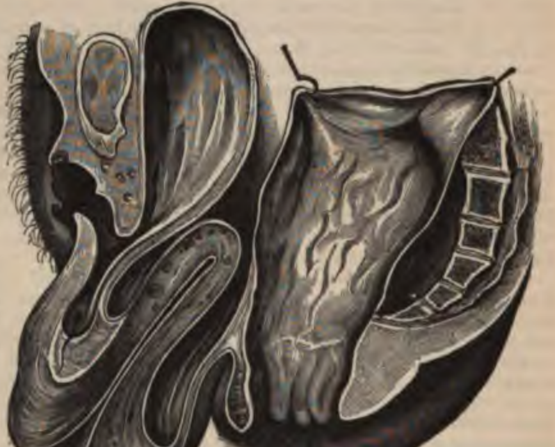
* Boivin and Dugès: Diseases of the Uterus, p. 44, (*note.*)

† Mal. de l'Uterus, p. 256.

‡ Burns' Midwifery, p. 134. Jalouset · Jour. de Med. Chir. et Par. vol. xliii. p. 366.

The 'cul de sac' formed behind the prolapsed uterus and vagina very often contains fluid, and occasionally a considerable portion of intestine. "In the case of a poor woman named Watkins, who died in Kensington work-house, in whom the protruded parts measured more than fifteen inches in circumference, and six and a half in length, it



[†] Nauche: Maladies propres aux Femmes, vol. i. p. 84.

was found that they contained, besides the uterus, the urinary bladder, with a portion of the meatus urinarius, part of the rectum, the fallopian tubes, and the small intestines."* If the abdomen be very carefully manipulated, it is said that it will be found to be flatter and more empty than ordinary.

The accompanying engraving of a section of a prolapsed uterus and pelvis shews the changes which take place in the relative proportions of different parts of the organ after some time. The hypertrophy of the cervix, the conical figure, and the dilatation of the orifice are very well marked.

399. *Diagnosis.*—In addition to other distinctive marks of prolapsus uteri, there is one that is perfectly conclusive, and applicable to any degree of displacement. *I mean the presence of the os uteri at the inferior part of the tumor.* We must of course, make sure that it is the os uteri, and not a mere fissure: this may easily be done by the introduction of a moderate sized bougie. Another mark, upon which some stress has been laid, is of less value; I allude to the form of the tumor, (a cone with the apex downwards,) which has already been stated to depend altogether upon the length of time the prolapse has been complete.

Descent of the uterus may be distinguished—1. From *polypus uteri*, by the presence of the os uteri at the inferior part of the tumor, and by its sensibility: and *prolapsus uteri*, in addition to these marks, by the eversion of the vagina, and by the presence of the bladder on the anterior part of the tumor covered by the vagina. Jourdan adds: "By the prolapse being reducible, but not so the polypus."†

2. *Descent of the uterus* differs from *partial inversion of the uterus*, in the presence of the os uteri at the lower part of the tumor, in the absence of the severe floodings, and in its smooth surface: *prolapse* differs from *complete inversion*, in the presence of the os uteri, in the smooth surface, in having the bladder anteriorly, and in the absence both of the floodings and the extreme constitutional suffering.

3. From *prolapse of the vagina*, in the greater solidity of the tumor, and in the presence of the os uteri inferiorly.

4. From *tumors of the pelvis.* A careful examination will detect the displacement, and the os uteri at the lower extremity of the tumor. There is generally little or no displacement with pelvic tumors.

400. *Treatment.*—"If nothing were done in the way of treatment for a patient laboring under this disease, she would become much distressed by all the symptoms which have been described: she might die from weakness, induced by the large discharges and the disordered state of the stomach; or she might die from inflammation taking place in the parts contained in the inverted vagina, which are more

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* Hamilton's Pract. Observ. part i. p. 4.

† Dict. de Med. vol. xxiii. p. 284.

liable to pressure than when in their usual place, the cavity of the pelvis and abdomen." "Such fatal terminations are uncommon: it much more frequently happens that the patient drags on an uncomfortable life for a number of years, till she is destroyed by accident, or by some other disease."*

It is in the treatment of this displacement that we see the value of a distinct appreciation of the degree of descent. In the milder cases, we can often succeed be relieving the element of the depresssion, viz.: the increased weight of the uterus from congestion or hypertrophy, at the same time avoiding all forcing efforts; or if this fail, by acting medicinally upon the mucous membrane: in the severer ones, we are obliged to have recourse to mechanical support.

401. We shall therefore consider the management, first, of *Descent of the uterus.*

If a patient, who has previously suffered from descent of the womb, require our attention during her confinement, we should be on our guard against permitting her to leave her bed, or even to sit upright in it, before the elasticity of the parts has restored them to their natural state. By great care, and a longer confinement than usual, it has been found possible to cure many patients, who, previous to their pregnancy, had suffered from prolapse. This preventive treatment will generally be perfectly successful; but it is not often that we have an opportunity of putting it into practice, as the majority of cases present themselves to us at an age beyond that of child-bearing.

Lisfranc declares that slighter cases of descent, being all caused by congestion of the uterus, may be cured without any reference to the depression. Even when the prolapse has been complete, he has hitherto avoided using mechanical support. "En resumè," concludes the Professor, "the congestion must first be treated, and if, after that, the displacement of the womb be persistent, the pessary may be employed, if the patient can bear it.†

In ordinary cases, the first and most general remedy to be employed is rest, for as long as possible, in the horizontal posture. If by this means the relaxation of the vagina and ligaments be not cured, at any rate it will be prevented from increasing. There are two means of restoring the tone of the relaxed vagina, viz. the application of cold, and the injection of astringents. The facts in support of the efficacy of these remedies are numerous and authenticated, but it would occupy too much space to dwell upon them. I shall merely state the best mode of application. The lower belly, the genitals, and the back, may be sponged with very cold water twice or thrice a-day, and an injection (a pint) of cold water, may be thrown up the vagina morning and evening. The patient should remain in the recumbent position whilst receiving the injection which should be gently and slowly administered, by means of an appropriate syringe or an elastic bottle.

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* Clarke on Diseases of Females, vol. i. p. 86.

† Mal. de l'Uterus, p. 528.

Astringent remedies deserve a full trial, for in many cases they are very beneficial.* Various kinds have been recommended. Some object to those of metallic origin, as liable to cause irritation of the mucous membrane; and they especially recommend vegetable astringents. This inconvenience is not, however, of frequent occurrence. The most useful of either kind, are the sulphate of zinc or copper (ʒss to ℥iii of water), nitrate of silver (from ℈i to ℈ii to ℥iii of water), alum (ʒii to ℥iv of water), decoction of green tea, of oak bark, of galls, of matico, infusion of roses, &c.; or we may combine the two kinds. From half a pint to a pint of the fluid should be injected *cold*, two or three times a-day, the patient lying down for the purpose.

Dr. Blundell says, "It might be worth consideration whether powdered astringents might not be of use, if they were introduced with a little care, which might perhaps be done by the patient herself; and I think powdered galls, for example, would furnish a very powerful application. They would have the advantage of lying in the vagina more permanently than a wash, which runs off as soon as it is infused." The same effect will be produced by enclosing the powdered astringent in a muslin bag, which will be less likely to irritate, and which may be removed from time to time. I have found much benefit from this plan.

Burns decidedly advises the use of astringent injections, whether the pessary be employed or not,† and in this view Boivin and Dugès coincide.‡

Several objections have been raised against the use of injections by Dr. Hamilton, on the following grounds:—"*Firstly.* On the supposition that styptic injections were safe, and that they could really restore tone to the vagina (which the author concedes for sake of argument, for the contrary is his sincere belief), it must be obvious that if his view of the nature of the disease be correct, no benefit could accrue from the practice. Accordingly, no practitioner trusts to those means, in cases of any considerable degree of prolapsus uteri. *Secondly.* It is admitted, that as the irritability of the mucous membrane of the vagina varies in different women, as well as in the same women at different periods of time, the injection of strong astringents may prove injurious. Doubts are therefore entertained of the safety of the practice, even by those who recommend it. *Thirdly.* The author's experience has convinced him, that astringent injections into the vagina are apt to injure the uterus rather than the canal into which they are thrown. He can solemnly aver, that of the numerous cases of chronic enlargement of the uterus which have fallen under his notice, by far the greater number had been unequivocally occasioned by the use of styptic injections per vaginam. *Fourthly.* The immediate effect of such injections, in cases of prolapsus uteri of any standing, viz. the diminution or suppression of leucorrhœal discharge, has been in many cases followed by distressing headaches, or obstinate inflammation of the eyes, or eruptions on the face.*

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* Blundell on Diseases of Women, p. 41.

† Midwifery, pp. 130, 131.

‡ Boivin and Dugès: Diseases of the Uterus, p. 42.

These objections will be best obviated by pointing out some circumstances which forbid the employment of injections.

1. Any degree of acute or chronic inflammation of the vagina will probably be aggravated by astringents.

2. Congestion, or chronic inflammation of the womb, will prohibit them; but in such cases, it is probable that relieving the disease may cure the displacement.

3. The strength of the astringent injection must be well adapted to the irritability of the vagina; and if it be attended with inconvenience, it should be abandoned.

Injections, however, may not be sufficient to relieve even this stage of the disease, in which case we must have recourse to mechanical support.

The improvement of the general health will often have a remarkable influence upon the procidentia, so that our attention should be carefully addressed to this end. Blue pill, aromatic purgatives, tonics, &c. with good diet, may be useful, and for the inhabitants of cities, a removal into the country.

402. *Prolapsus uteri.* When called to a case in which the prolapse is complete, and the uterus protruded through the external parts, our first duty is to attempt the reduction. This in general is sufficiently easy: the uterus must be gently, yet firmly, pressed upwards by the hand (previously well oiled), and when within the vagina, one or two fingers should be introduced, in order to replace the womb as nearly as possible in its natural situation. "Particular care should be taken to ascertain whether inflammation has at any time attacked the internal parts of the tumor; because if this should have happened, and if the parts should be connected with each other by coagulating lymph, the force necessary to accomplish the return of the tumor may separate the adhesions, or tear the parts with which they are connected, and the life of the patient may be brought into imminent hazard. Whenever, therefore, acute pain, which has been lasting, has occurred in the tumor, particularly when this has been accompanied by other marks of peritoneal inflammation, such as thirst, white tongue, small quick

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* Practical Observations, p. 17.

pulse, tenderness of the abdomen, and vomiting, no attempt should be made to replace the uterus within the body."*

When attempting the reduction, the body of the patient should be so placed, that the pelvis may be higher than the head: this will prevent the weight of the abdominal viscera from interfering with the return of the parts. The patient being now directed not to strain, or in any way to act with the abdominal muscles, the practitioner is to apply his finger and thumb to the lower part of the tumor, where the os uteri is situated, and by a gentle pressure this is to be carried up into the centre of the tumor itself. This done, the same pressure is to be continued, and the parts are to be returned into their proper place in the pelvis. A pessary is then to be introduced into the vagina, and the patient should continue to lie upon an inclined plane, with the hips elevated, for several hours. But if the uterus be much swollen, this speedy reduction may be very difficult, or impossible; and in such a case it may be necessary to take away some blood, give some purgative, place the patient in a hot bath, or apply fomentations to the displaced organ, before we can succeed in replacing it. Should these measures, with absolute rest in the horizontal position, fail, leeches should be applied to the tumor, or we may make one or more incisions into the substance of the womb. Jalouset,† Berchelman,‡ and Labatt, have tried this plan with success. Care must, of course, be taken to avoid penetrating the peritoneum. Dr. Labatt's case is as follows:—Mrs. C. F., æt. 27, suffered from prolapsus uteri after her first and second child. The uterus was returned, and retained '*in situ*' by a pessary, which, however, was shortly afterwards withdrawn, as it occasioned "pain, strong bearing down efforts, constant sickness at stomach, and a troublesome strangury." The uterus after this, remained prolapsed for several months, and in "March, 1806," says the Doctor, "I was requested to see her, when I found her worse in every respect; she was much emaciated, and teased with a cough and copious night-sweats. She had no appetite, but constant nausea and vomiting: the uterus protruded throughout the os externum to a great extent; it was considerably enlarged, and very sensible to the touch, and seemed evidently in a state of inflammation, from friction between the thighs, which appeared excoriated by it. Around the os uteri was observed a superficial ulceration. The base of the tumor (which was *of a conical shape, the os uteri situated at the lower part or apex*,) formed by the prolapsed uterus, was surrounded by displaced intestine, and at the anterior part was discovered a swelling, which was found to be the bladder, as, on pressing it, the patient passed water involuntarily. The slightest attempt at reducing the uterus considerably increased the lancinating pains through the pelvis, from which she was never entirely free. With these symptoms she had a constant pain and sense of weight in the lumbar region, increased by an erect posture; a constant and painful desire to pass urine, frequent and profuse uterine hemorrhage, and in the intervals a copious leucorrhœa. The management of her family, in which necessity obliged her to take an active part, tended considerably to aggravate her uterine complaints. Her health became so bad, however, that for some time she was obliged to relinquish every kind of exercise, and remain in a horizontal posture. Under this untoward combination of circumstances, I expressed a wish to consult Dr. Clarke, who suggested scarification of the uterus, as the only remedy left untried which afforded any probability of relief; at the same time adding, that he had recommended it on the authority of a German writer, never having seen it actually put in practice. He considered this patient's situation so desperate, as to justify any rational expedient, however novel. She readily consented to the operation, which Mr. Dease performed, by making ten or twelve bold incisions, in the form of radii, from the apex of the tumor, as far towards the base as was consistent with the safety of the displaced intestine and bladder. The patient felt little pain during the operation. A discharge of blood, not however as copious as might have been expected, continued for several hours, followed by an ichorous discharge, which continued for some weeks. She felt no immediate change of any kind, nor any benefit from the scarification; on the contrary, for five or six weeks she had reason to believe that it increased her distress: after that period, however, she was sensible of an amendment. The size and morbid sensibility of the womb began to diminish, so that in a short time she was able to return it, and wear a pessary with little inconvenience; but this being too small, and falling from the vagina, was discontinued. Being at some distance from home, and anxiously engaged in attending her husband, who was dangerously ill, she allowed the uterus to come down, and remain so until the beginning of April, when she returned to Dublin. I found the womb completely prolapsed, but much diminished in size, and not sore to the touch as formerly: it was returned and retained in its place by a pessary of a proper size, which she now wears with little pain or inconvenience. The pains in her loins and through the pelvis are much better, the uterine discharges lessened, her general health improved, and she enjoys a degree of comfort to which for many months she was a total stranger." The Doctor adds—"I this day, Aug. 28, 1807, visited my patient, and was much gratified to find her almost free from complaint. She had no distress on making water; the leucorrhœa had ceased, and the catamenia were regular. The uterus has been retained in its natural situation by a globe pessary, which she wears without any inconvenience. Her appetite and general health seem restored, and she is able to take long walks without any increase of her uterine complaints."[*]

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* Clarke on Diseases of Females, vol. i. p. 124.

† Journal de Med. tom. 43.

‡ Med. Comment. vol. ii. p. 43.

It occasionally happens, if the prolapse be of long standing, and the uterus be much swollen, that its reduction causes more inconvenience than the prolapse. Richter has related such a case. The patient, after the displacement of the womb, felt great uneasiness, sharp pains in the lower belly, and obstinate constipation; and it was found necessary to allow the uterus again to prolapse, for the sake of relieving her torture. "Dr. Bobe-Moreau thought the pressure produced by a bandage the only means of reducing cases of long standing: and this mode already proposed by Léveillé,[†] has been successful.[‡] Ergot of Rye has been given for the purpose of lessening the bulk of the uterus, and with success. In the Medical Gazette for July 26, 1834, a case is related by Mr. Kerr of Manchester, in which he gave four scruples of ergot of rye, with an hour's interval between each, for the purpose of causing uterine contraction, and so reducing the bulk of the prolapsed uterus, which was found irreducible previously. The patient complained of "a great deal of grasping griping pain" in the uterus; and "on examination," says Mr. Kerr, "we discovered, to our great satisfaction, that a material diminution (in size) has occurred; so much so, that the *rugæ* of the vagina were perfectly manifest; and without any great effort the reduction was effected."

There are very few cases perfectly irreducible; but should any such be attacked by extensive sloughing or gangrene, we may have to decide upon the propriety of removing the organ altogether.

The circumscribed ulcerations which I have mentioned, as frequently attacking the exposed uterus, will be cured by slightly stimulating and emollient applications. Sir C. M. Clarke recommends the following ointment:—

"Bals. Peruvian. ʒii
Ung. Cetacei, ℥i M. ft. Ung.

If the uterus be returned, and retained in its proper situation, they disappear without any treatment. Dr. Blundell observes: "by the application of some stimulant and astringent remedies, such as are used in cutaneous diseases, perfect cures may, I believe, in general be easily obtained."

403. But supposing the uterus returned into the pelvis, our task is but half fulfilled; we have yet to decide on the best means of keeping it there, and for preventing a repetition of the prolapse. The ordinary method is by the introduction of a pessary, if the patient be able to

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[*] Dublin Med. and Phys. Essays, vol. i. p. 235.

[†] Bull. Fact. Med. 1815, No. 4.

[‡] Boivin and Dugès: Diseases of the Uterus, p. 51.

bear it. There are various kinds either of sponge, glass,* cork, boxwood, ivory, silver, elastic gum, or gutta percha. Those in common use are flat, round or oval, with edges thicker than the middle part, and made very smooth. There is a hole in the centre to allow the escape of any discharge, and small holes occasionally made at the sides of the large one, for the same purpose. Others are globular and hollow, and either round or oval. "Cork," says Sir C. Clarke, "although from its lightness it seems well adapted for the purposes of a pessary, is objectionable, from being porous, and liable to imbibe the moisture of the parts; from which circumstance it becomes offensive and irritating. Pessaries have been made of cork covered with wax; but they soon lose the wax, which either becomes soft and is rubbed off, or it peels off in flakes. Sponge is the worst material which can be employed for pessaries; it is porous, and will very quickly imbibe the moisture of the parts. The piece of sponge must be large, compared with the size of the vagina, or it will be useless; and if it is large, the vagina (the dilated state of which was one of the causes of the disease) will be still further dilated; and although, whilst the sponge is worn, the uterus will rest upon it, and the symptoms may be relieved, yet when it is removed, the disease will return with double violence. Pessaries are made of various shapes, as well as of different materials, adapted to different cases and circumstances. For the majority of cases, a circular or an oval pessary answers sufficiently well; but the circular pessary can only be safely used in those cases where the disease has not made great progress, and where the tone of the vagina is not much impaired." "It will seldom be safe to introduce a circular pessary the diameter of which exceeds 2½ inches. No instrument of this kind should measure in thickness, at its external edge, less than ⅓ of an inch, lest it should injure the parts by its edge; it should become gradually thinner as it approaches the centre, in which there should be an oval opening, large enough to hold the end of the fore-finger of the surgeon, in order to enable him to place the instrument. A number of holes may be pierced through the instrument in different parts, by means of which it is rendered much lighter, and the secretions from the upper part of the vagina, as well menstruous as mucous, can more readily pass through it. A pessary of an oval form is best adapted to those cases in which the tone of the vagina is so very much diminished as to make a large support necessary; because in this case the oval pessary rests by its two extremities upon the sides of the vagina; but lying with its long diameter applied to the short diameter of the female pelvis, it neither interferes with the rectum nor with the urinary passage. If the case should require it, an oval pessary should be used, of a size so large that it may measure 3¾ inches in its long diameter, without any injury to the parts.*

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* Dewees: Diseases of Females, p. 240.

Dr. Blundell prefers the globular or oviform pessary, as it gives to the descending parts a very considerable bearing, by means of its broad surface.

Dr. Davis says that "the most easily worn pessary, and one perfectly well calculated to meet its intended indication, might be found in a rounded piece of fine sponge, of sufficient volume to retain its position within the vagina. The principal objection to a pessary made of sponge, is its peculiar susceptibility of becoming charged with offensive and irritating impregnations, and the consequent necessity for its being daily withdrawn and replaced. Sponge pessaries should indeed be withdrawn and replaced *at least once every day*. One great advantage attaching to a spongy pessary, is the facility which it affords for keeping the parietes of the vagina more or less constantly exposed to the action of whatever medicated fluid the practioner may feel it his duty to recommend to be applied to it; for the sponge pessary may always be worn more or less charged with the fluid furnished for that purpose. The author is in the habit of entrusting that duty to the patient herself, merely giving her general directions to avail herself of a horizontal position, with her knees retracted, and to charge the inferior or more accessible part of the sponge from the mouth of a small cream-jug or the pipe of a toy tea-pot. Practice will enable her, in a short time, to determine the proper quantity to be used for each charge of the fluid."†

Dr. Waller, in a note appended to his edition of Denman, describes an instrument which he has used with great benefit, especially in cases of lacerated perineum; "it is made by Mr. Laurie of Bartholomew-close, and consists of an elastic steel circular spring which surrounds the body, and rests just below the hips: it is fastened behind with a strap and buckle: two small studs are fixed to the centre of this spring in front, to which a curved steel wire is attached by means of straps; this wire forms a sort of hook, of proper length and curvature, to be passed up the vagina, as high as the natural situation of the os uteri; upon this hook a pessary is mounted, composed of cork, well padded and covered with india rubber, in order that it may not be affected by moisture. The straps at the upper part of the wire act as hinges, and by so doing, permit the free motion of the body; they can very easily be removed from the studs, so that the pessary may be taken away at pleasure, without unbuckling the circular spring. In front of the body spring is attached a short elastic piece of steel, with a groove in it, which plays upon the wire hook, and prevents the pessary from being forced out of its place."*

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* On Diseases of Females, vol. i. p. 112, et seq.

† Davis's Obstetric Medicine, vol. i. p. 550.

M. Cloquet has proposed a cylindrical one, flattened before and behind, and terminated by an oval depression.

Messrs. Murat and Patissier have given an excellent description of several kinds of pessary, and the dangers arising from their misuse:† "Pessaries may be made of gold, silver, lead, wood, cork, or gum-elastic. Sponge is recommended occasionally, when the membrane of the vagina is swollen, or the canal of the urethra indurated. The more precious metals are in general too expensive, and others are liable to be corroded by the discharges. Boxwood is the best species: formerly aromatic woods were employed. Osiander recommended a bag filled with chips of oak-bark to be introduced into the vagina. Ivory is sometimes used, but it becomes soft and worn. As to the form, they may either be round, oval, like an hour-glass, '*en bondon*,' or '*en bilboquet*.' Add to these the pessaries invented by Bauhin and Saviard. "That of Bauhin is a circle of silver, supported upon a stalk with three branches. The circle is introduced into the superior part of the vagina, so that the cervix uteri can be fixed in it. It is maintained '*in situ*' by a ribbon attached to the lower end of the stalk, and to a bandage round the body." "The pessary of Saviard consisted of a steel spring, one end of which was fixed to a girdle, and the other, defended by a cushion, was curved so as to reach just within the vagina, and to support the uterus. An objection raised against Levret's oval pessary led M. Bruninghausen to construct one resembling the figure 8 (or an hour-glass). Its length ought to be such that it will rest on two sides of the pelvis, *i. e.* about 3¼ inches. Its superior surface is concave, perforated in the middle. It is narrowed in its centre, from before backwards; its two extremities being broader than the oval pessary, and supported at many points, so that it is less easily displaced. The pessaries '*en bondon*' have the form of a cone, perforated longitudinally; the base is in contact with the uterus, and the apex is free and external. The base may be convex, plane, or concave, according to the object to be attained. There are two rings at the outer end, for the attachment of a bandage. The pessaries '*en bilboquet*' (called also pessaries *à tige*, *à pivot*, or *à petiole*,) were invented in the last century by M. Levret, to avoid the pressure exercised by ordinary pessaries upon the rectum and bladder. They consist of an ordinary concave flat pessary, from the under surface of which proceed three branches, afterwards united into one stalk, of sufficient length, and furnished with a ring for the attachment of a bandage, by which it is secured in its position."

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* Denman's Midwifery, p. 68.

† Dict. des Scien. Med. vol. lxiv. art. Pessaire.

The latter kind are inconvenient; they get displaced, and may do mischief. They are principally useful when the perineum is ruptured.

"A good pessary," says Sir C. Clarke, "should combine firmness, lightness, and closeness of texture: firmness, that it may not yield to pressure; lightness, that it may not incommode by weight; and closeness of texture, that it may not imbibe the secretions of the vagina. Those made of boxwood possess all these advantages; and this wood, not being scarce, can easily be procured."

An attempt has been made to construct a pessary which could be expanded to any size, *after* its introduction into the vagina. Dr. Thomas Simson, of St. Andrew's, contrived such a one,* but the profession, generally, has preferred the more simple kind. Dr. M'Clintock has succeeded with a bag of vulcanized india rubber of a suitable size: it is easily introduced folded, and expands from its own elasticity. Mr. Lund has constructed a pessary consisting of a spiral steel spring slightly curved, and enclosed in a case of india rubber, which is kept in situ by a bandage.† Mr. Scholefield,‡ Dr. Reid,§ and Dr. Ritchie,‖ have each invented a new form of uterine support: but as a description without a drawing would convey no intelligible meaning, I must refer the reader to their papers.

For some years back, I have had recourse to a modification of the old medicated pessary, in slighter cases of prolapse. I make a bag of coarse muslin, about three inches long and one wide, either more or less, according to the relaxation of the vaginal canal. This bag I fill with bruised galls, oak bark, matico, &c., and having dipped it in water, and smeared it with lard or oil, I pass it into the vagina, and allow it to remain two or three days, when it can be removed, and a new one introduced by the patient herself. These bags resemble the "sachets" of M. Levret, and I am happy to be able to strengthen my testimony of their usefulness by the authority of Dr. Meigs, who speaks highly of them in his recent work.

I have lately tried a pessary made of thin gutta percha rod. It is easily made of any size and with any modification of its shape. It acts on the principle of distending the posterior wall of the vagina upwards. I have found it succeed very well, it is easily introduced, remains in situ and does not impede the flow of menses or catamenia. It is particularly useful when the vagina is so much relapsed as to slip down beside a flat or globular pessary; it is more easily introduced and is of less bulk than the pessary of M. Cloquet. Next to this, I prefer the common ring pessary of box-wood, gutta percha, or india rubber. The globular or oval pessaries are useful in some cases; and Dr. Meigs' suggestion that they may be made of hammered silver, gilt, is valuable. The silver may be reduced to the thinness of letter paper, without reducing its firmness too much, and of it an extremely light pessary of any shape may be made.*

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* Edinburgh Medical Essays and Observations, vol. iii. p. 288. Davis: Obstetric Medicine, plate 11, fig. 3. Leipzig Commentaries, vol. ix. part i. p. 127.

† Guy's Hosp. Reports, 1846.

‡ Lancet, May 6, 1848.

§ Ibid.

‖ Ranking's Abstract, vol. x. p. 207.

404. The mode of introducing the ordinary pessary is very simple. The patient being placed on her side or back, the long diameter of the instrument is to be placed in accordance with the long diameter of the lower outlet; or in other words, it is to be passed through the external orifice edgeways. When fairly in the vagina, it must be partially turned, so as to place it transversely across the pelvis, and above the tubera ischii. The os uteri should be felt through the opening in the pessary, if it be a flat one. The first part of the operation gives a good deal of pain, and should be performed gently, and with a rotatory motion. The globular pessary is more easily introduced, and requires no placing internally; but I have found it far less useful, except in cases of lacerated perineum; in them, it is retained better than the other kinds.

When the irritablity of the vagina is too great to bear a hard pessary, the patient may sometimes succeed in retaining a gum elastic one. Whichever kind we use, it should be withdrawn occasionally. If there be much discharge, once a month will not be too frequent; but if not, once in three or six months. Very serious consequences have resulted from neglecting this precaution. "Pessaries," Dr. Denman observes, "once fairly introduced, may often be worn for many years, without any, or very little, inconvenience. But sometimes from the long continuance of a common one, or from the enlargement and strangulation of the os uteri within the opening at the centre, (which ought always to be very small) there has been much difficulty in withdrawing it, when necessary. In the latter case, the strangulated os uteri must be pressed firmly, and for some time, between the finger and thumb, till the size is reduced, when it may be extricated. But if it be possible to pass a piece of tape through the circular opening, and if we pull in a proper direction by both ends of it with a firm and gradually increased force, so as to give the parts time to distend, we can hardly fail of success. Should that not be possible, the rim of the pessary must be broken, or divided by a pair of sharp strong forceps, of the kind used by watch-makers. The globular pessary may at any time be extracted with a small vectis."†

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* Females and their Diseases, p. 171.

† Denman's Midwifery, p. 67.

405. Various objections have at different times been made against the employment of pessaries; and latterly they have been repeated and urged with all the moral weight derived from long experience and high standing in the profession. After recommending injections and tonics, Dr. Leake* remarks that they are "in every respect preferable to the application of those painful and indelicate instruments called *pessaries*, so often made use of with a bad effect; for, instead of strengthening a weak part, they lay additional stress upon it, and consequently are highly improper." He mentions further three objections: 1. That, if too small, the pessary will not rest in the passage, but will be forced out. 2. If too large, it will occasion profuse leucorrhœa and great pain. 3. That it has been known to make its way into the rectum.

In the American Journal of Medical Sciences for August, 1836, there is a paper by Dr. Annan of Baltimore, on a method of relieving prolapsus uteri. Speaking of pessaries, he says: "Irritation is the inevitable consequence of the constant pressure of a foreign body upon the delicate membrane lining the vagina; and in many instances it becomes insupportable, and the pessary cannot be worn." "Ulceration has been produced in many cases; and a communication has been established between the rectum and vagina, and the pessary has passed into the bowel." "Another objection to the pessary is, that it dilates the vagina, and when removed, the uterus has a better opportunity for descending than it previously had." In consequence of these inconveniences, Dr. Annan had an instrument constructed, "the upper part of which resembles the spring and main strap of a common double truss, wanting the pads, and is designed to embrace the sacrum and wings of the ilion." To this circular spring another is attached at right angles in front, of sufficient length to reach to the anterior edge of the perineum, and terminating in a soft pad: "and so great a degree of curvature was given to this spring, that it lay outside in front of the labia," and the relief afforded was complete. It was equally successful in several cases. The curved spring should be 8½ or 9 inches long, and the tempering must be omitted.

Professor Dieffenbach, of Berlin, has recorded his opinion of the value of pessaries, in the Berlin Medicinische Zeitung, No. 31, 1836: "I have frequently seen them produce putrid discharges from the vagina; in other cases, dilatation to a most inconvenient extent; in others, contraction of the same organ; and finally, in other females, the still more dangerous accidents of cancerous or fungous productions from the vaginal mucous membrane. Sometimes I was able to extract the foreign body with my fingers, but in many other cases it was necessary to break it up with strong forceps, before the fragments of a stinking, encrusted substance, whose composition could not easily be determined, were removed. Several patients labored under excessive irritation of the bladder; and when the foreign body was large, they suffered for years under obstinate constipation." "On the other hand, however, it cannot be denied that pessaries and the sponge are sometimes useful, when properly employed by a skilful hand." The Professor proposes to supersede the use of the pessary by an operation, which he performed in the following manner on a case of prolapsus uteri: "After having emptied the bladder and rectum, I commenced by removing, from the left side of the vagina, a portion of the mucous membrane resembling in size and shape the section of a hen's egg; the small end of the ellipse being directed backwards, the oval end forwards, and touching the nymphæ." "After having cleaned the edges of the wound, I placed five strong stitches on either side, in the following manner: the two posterior sutures on each side were first applied, the uterus was then returned to its natural position, and the rest of the sutures were finished: had they all been applied in the first instance, it would, perhaps, have been impossible to have returned the uterus afterward. If we except burning pain in the vagina, and a moderate febrile movement, the symptoms which followed this operation were not very remarkable. The patient underwent an antiphlogistic treatment, and cold injections were thrown up every hour into the vagina." Some of the sutures were ultimately divided with the scissors, and came away of themselves: the woman recovered, and the operation was successful. The Professor has repeated the operation many times since, with equal success: fewer ligatures were employed; generally but three, but sometimes none at all, "for the edges of the wound frequently came in close contact with each other after the reposition of the uterus." In several cases, after having replaced the uterus, I have performed the operation by merely removing a fold of the vaginal wall, which was drawn forward with Museux's forceps, and then clipped off; this is much the easier method of the two; but the surgeon should always be on his guard against the danger of wounding the bladder or rectum, which might take place if a deep fold of the vaginal parietes was removed close to its base."*

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* Diseases of Women, p. 136.

Doctor Hamilton† makes the following objections to the use of pessaries:—"*Firstly.* They can only act as palliatives, whatever may be the degree of the disease. "*Secondly.* They necessarily keep up a continued irritation in the passage, and of course a mucous discharge from the vagina. "*Thirdly.* Unless properly adapted, they make injurious pressure on the contents of the pelvis. "*Fourthly.* If not frequently taken out and cleaned, they become encrusted with a calcarious matter, which proves highly irritating. "*Fifthly.* They subject the patient to the charge of the medical attendant for life. "And *lastly*. Cases from time to time occur, where from the laceration of the perineum, &c. no ordinary pessary can be retained. "Between twenty and thirty years ago, the author ventured upon an experiment for the relief of cases where no pessary could be retained. His object was to excite inflammation of the internal surface of the vagina, in the hope that adhesions would succeed, as he had heard of one case, where an unexpected cure had in this way happened." This was done once by introducing "a ball of the emplastrum ceral into the vagina," and a second time by means of a bag of alum: inflammation and sloughing followed: no adhesion took place. "These experiments having failed, the author was induced, in one very bad case, to sanction a surgical operation, viz. the bringing together the sides of the vagina by means of ligatures. The operation was very ably performed by Mr. Liston, but no union was effected, and the sufferings of the patient was such that the author resolved never to be again a party to such a practice." Having thus failed to provide a substitute for pessaries, Dr. Hamilton continued to use them, until a severe accident, resulting from the carelessness of the patient, determined him to banish them from his practice. Instead of them, he has since employed the T bandage, with "a cushion interposed between the outlet of the pelvis and cross straps of the bandage" (without any pessary), "and the experiment succeeded completely, for the patients felt perfect relief. In every case, therefore, of prolapsus uteri, whatever may have been its degree, to which he has been called for some years past, he has suggested this very simple contrivance. In cases of short standing, the circular band may be made of fine linen or jean, lined with chamois leather; but in more serious degrees of the disease, it ought to be made of tempered steel, like that of the common truss. The cushion is to be stuffed with horse-hair, and ought to be, generally speaking, about six inches in length, by three in breadth. Its thickness must be adapted to the individual case; that is, the greater the degree of relaxation of the soft parts at the outlet of the pelvis, the greater should be the thickness of the cushion. It is to be tacked to the cross strap of the bandage, so as to press firmly upon all the parts requiring support. In some cases, where the perineum had entirely given way, the author has found it necessary to combine the prolapsus and bandage with the cushion. This bandage is to be worn whenever the patient is out of bed, as long as any symptom of the disease is perceived. It effectually relieves the unpleasant feelings, while it enables the patient to take walking exercise, which is so essentially necessary to the relief or cure of the disease."

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* Lancet for May 20, 1837, p. 303.

† Pract. Obs. pp. 28, 29.

As far as I have seen, the objections may be ranged under the following heads:—

1. They are indelicate.

2. If too small, they will not rest in the passage, but be forced out, and consequently do no good.

3. That they irritate the vagina, and give rise to leucorrhœa, especially if too large.

4. That they cause irritation, ulceration, and fungous growths.

5. That they give rise to putrid discharges from the vagina.

6. That they occasion dilatation of the vagina.

7. That they cause contraction of the same organ.

8. That patients have suffered under irritation of the bladder, or constipation, whilst using them.

9. That the pessary has become so encrusted with earthy matter, as to require breaking before it could be extracted.

10. That a pessary has been known to make its way through the walls of the vagina, and into the rectum.

With regard to the first objection—if true, this operation only shares equally with all midwifery operations; nay, it is not a whit more indelicate than making a vaginal examination. If the second or third objection be valid, it must be owing to an error in calculation; and if the operator be watchful, he will speedily obviate it. The fourth, fifth, eighth, ninth, and tenth, are only applicable to cases of gross neglect, on the part of the patient or medical attendant, and cannot for a moment be admitted as any argument against the use of the pessary. As to the sixth and seventh, they cannot both apply to one case. Undoubtedly a pessary will keep that portion of the canal in which it is situated in a state of dilatation, but with equal certainty, the vaginal orifice will be relieved from the distension caused by the prolapsed uterus; and if, every time the pessary be changed, one of a size smaller be introduced, it will be found quite adequate, and in many cases a permanent cure may at length be obtained. With due respect, therefore, to the eminent authorities just quoted, their arguments do not seem conclusive against the proper use of pessaries. On the other hand, there is ample evidence from well authenticated facts, to show that the judicious application of these instruments, so far from being injurious, is in many cases beneficial, and even preferable to any other plan of treatment.

406. I think, therefore, that we are justified in drawing the following conclusions:—

1. A pessary may be applied when there is neither irritation, inflammation, nor organic disease of the womb, vagina, or neighbouring viscera.

2. Its size and shape should be accurately adapted to the size of the pelvis, and the peculiarities of the case.

3. The patient must be carefully watched after its introduction, and if there be necessity, the pessary must be withdrawn for a time, and resumed, or altogether abandoned. Dr. Blundell observes, "after the uterus has been replaced, you will find sometimes that a great deal of pain and fever are produced, so that you begin to be alarmed lest abdominal inflammation should ensue. Now, if these symptoms be considerable, you had better take away the pessary, and let the parts

come down again. Bleeding from the arm, leeches to the abdomen, fomentations, poultices, relaxation of the bowels, in fact, all the ordinary remedies, appear to be indicated. If the symptoms are slight, and the pulse do not rise above 100 or 105 in the minute, I should then feel inclined to suffer the pessary to remain, taking care to empty the bladder and to keep it empty, so that more room might be left for the uterus; at the same time using fomentations to the abdomen, applying leeches, and perhaps taking away a little blood from the arm. If the symptoms arising from the pessary have been so violent that it should be deemed necessary to take it away, and suffer the parts to come down again I should not therefore abandon my attempt; but in a few weeks afterwards, perhaps, I should resort to the pessary again, leaving it in for two or three hours, or till the same symptoms begin to appear; then again removing, and introducing afresh, after they had subsided; and thus applying the pessary longer and longer every time, I should hope to habituate the parts to its presence, so as in that manner to effect a replacement."*

4. If the patient tolerate the instrument, it should nevertheless be removed occasionally, for the purpose of cleanliness: the frequency will depend upon the character and amount of the discharges.

5. If possible, a fresh pessary should be introduced after each removal, and one of a smaller size each time.

6. Astringent injections or simple cold water should be injected previous to and after the introduction of the pessary.

But there are some cases, as Dr. Hamilton justly observes, where pessaries cannot be employed; and in such, it is fortunate for us that we are not without other remedies.

We may try Dr. Annan's pad, Dr. Hull's utero-abdominal supporter, or Dr. Hamilton's compress; each mode may have its advantages in particular cases, though the principle of each is the same, viz. applying support to the external orifice. Prolapse will thus be prevented, but the descent may still exist; the force applied has no power of maintaining the uterus at its natural level in the pelvis. If this be the case, I do not see but that the objection stated against pessaries, viz. that they continue the undue dilatation of the passages, applies with equal force to this plan; for if the uterus be allowed to fall to the floor of the pelvic cavity, the vagina will be kept in a dilated state by it. Of the relief afforded, however, both Dr. Annan and Dr. Hamilton speak most highly; and the reputation of the latter gentleman is so deservedly great, that whatever he states is entitled to great respect. If the expectations I had formed on reading his paper have not been realised in practice, it must be because the trial has been too limited.

Mr. Goodman has tried an india-rubber ball (furnished with a tube and stop-cock), introduced empty, and then inflated. The tube is to be secured to the thigh by tape. He found it to answer the purpose perfectly in more than one case.*

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* Blundell on Diseases of Women, p. 35.

407. A more decided and permanent mode of relief is afforded by the operation first proposed by M. Girardin, and which resembles that adopted for the cure of prolapsus ani by Hey and Dupuytren, &c. It has been performed, with some modifications, in Britain, by Doctors Marshall Hall, Heming,† Hayden, and Ireland,‡ in Germany, by Professor Dieffenbach,§ Doctor Fricke, &c.; and in France, by Velpeau and Berard.‖

Episoraphia, as it is termed, consists in removing a portion of the vaginal mucous membrane, and uniting the opposite edges of the wound, so that when healed, the calibre of the canal shall be diminished by the breadth of the strip removed. The operation is easily performed. The patient being placed on a table, in the position adopted for lithotomy, and the urine having been evacuated, the uterus is then to be drawn downwards, or to either side, according to the part from which it is intended to remove the strip of mucous membrane. In Dr. Hall's case, it was removed from the anterior part of the tumor. Professor Dieffenbach, we have already seen, prefers removing a portion from each side. Dr. Ireland, who has performed this operation twice, and once with success, in the first case removed a broad strip from the side, and in the last from the anterior and posterior surfaces.

The operation may be commenced either at the uterine or vaginal orifice, taking care to remove as little as possible besides the mucous membrane, and to avoid wounding the bladder. The strip should be pear-shaped, the apex towards the os uteri. The ligatures (three will generally be enough) should all be inserted before any are tied, and then we may commence with the one nearest the os uteri, which should be pressed inwards as each ligature is tied, until it enters the cavity of the pelvis, when the last is tightened. In the majority of cases, hemorrhage did not occur; but in one case I witnessed, it nearly proved fatal some hours after the operation. To guard against this, it might be well not to tighten the ligatures or reduce the prolapse for a few hours.

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* Lancet, Sept. 28, 1839.

† London Med. Gazette, vol. ix. p. 269. Boivin and Dugès: Diseases of the Uterus (note by trans.) p. 53. Lancet, May 25, June 1, 1839.

‡ Dublin Journal, vol. vi. p. 484.

§ Berlin Med. Zeitung, 1836. Lancet, May 20, 1837.

‖ Medical Gazette, Nov. 21, 1835. See also Rognetta, Bull. de Therap. Med. Chir. Sept. 1835; Bellini: Bulletino delle Scienze Med. Jan. 1836.

The patient complains of no pain from the excision, except when dissecting about the os externum. Subsequently, the patient occasionally suffers from pain and heat in the vagina, with a slight discharge. Vaginitis may set in, and require the removal of the ligatures, and the employment of antiphlogistics. The ligatures come away at various intervals, from a fortnight to three weeks or a month. Cold vaginal injections should be given two or three times a-day. The diet of the patient should be moderate, her bowels freed by enemata, and she herself kept in a state of perfect rest.

The success of this ingenious operation has been considerable. Dr. Hall's patient "was examined by Mr. Vincent, surgeon to St. Bartholomew's Hospital, at the beginning of the present month (November, 1833), two years after the operation, and the uterus and bladder were found perfectly supported in their proper situation."

Professor Deiffenbach speaks of the complete recovery of many persons, owing to it.

One of Dr. Ireland's patients is perfectly well, and quite free from all the distressing symptoms of procidentia, or prolapse, and the uterus is maintained in its natural situation. The other failed. Mr. Hayden's case succeeded.

After repeating the history of Doctor Hall's case, Doctor Davis observes, "that the practice suggested by his friend's case cannot be considered an eligible one for child-bearing women, inasmuch as any considerable contractedness of the vagina, which the extraction of a large portion of its substance might be expected to produce, and which in practice it might not prove an easy thing to confine within any assignable limits, could not fail to render labor difficult, and even dangerous. Experience, and a more correct knowledge than we now possess, of the extent of consequences to be expected from such an operation, may possibly eventually lead to a relaxation of the principle on which the practice here suggested professes to be founded."*

In his admirable "retrospective address" to the Provincial Medical and Surgical Association, Mr. Cross remarks: "The result has, in a great majority of instances, been favorable; and the most zealous pursuer of the method, Dr. Fricke, who has, in repeated correspondence favored me with his remarks, refers to an instance of *episoràphie*, where the patient afterwards became pregnant, and was delivered by the forceps, without the artificial bridge giving way.† Doctor Fricke cured three out of four."‡

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* Davis's Obstetric Medicine, vol. i. p. 567.

† This case has been published by Dr. Plath, in the Zeitschrift fur die gesammte Medicin, vol. ii. p. 142.

‡ Transactions of the Provincial Medical and Surgical Association, vol. v. p. 92.

It would not, however, be advisable to undertake the operation, unless the uterus, appendages, and neighbouring viscera were free from disease; neither does it succeed so well with women of advanced age.

408. Several attempts have been made to cure the disease by diminishing the calibre of the vagina,* and procuring adhesion between its walls, or the opposite surface of the labia; but generally without success, in consequence of the indisposition of mucous surfaces to unite.

"M. Langier cauterized a broad strip of the mucous membrane with the nitrate of mercury,"† but it did not succeed; and Philips with nitric acid.‡ I have succeeded in two or three cases, by first lightly cauterizing a broad strip with nitric acid, and then introducing a "sachet" of matico or oak-bark, and allowing it to remain for some time, the patient preserving the horizontal position. The acid must be very lightly applied, just so as to shrivel the mucous membrane without forming a slough. The application of red hot iron to the mucous membrane, so as to shrivel up and contract, has been proposed and tried by M. Langier; but as I am not aware of the results, I can do no more than mention it. Dr. Evory Kennedy has tried this plan with success. I have known it fail.

Dr. Desgranges of Lyons has endeavoured to effect this by the application of ten or twelve small forceps to the upper part of the vagina, by which a portion of the mucous membrane is seized. This excites a degree of inflammation and sloughing, and in the process of healing the calibre of the vagina is diminished.§ He has given several cases in which a cure was effected, and the plan is worth a trial, as it gives no pain and excites no irritation. I saw it tried by Dr. Banon of this city, but it did not succeed.

The constitutional treatment of the patient, after the reduction of the prolapsus, will require care. Tonics may be necessary, and aperient enemata. For some short time the patient must avoid exertion, but after a few days she will be able to go about as usual, except in the more severe cases.

In some instances, where pregnancy has occurred with prolapsus uteri, or prolapsus uteri at the latter end of pregnancy, reduction has been effected; in others, it has been found impossible.

As to the treatment of the prolapse which has occasionally happened during labor, we are advised to dilate gradually the uterine orifice, so as to hasten the delivery; and, if necessary, to make one or two incisions into the cervix.

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* Med. Chir. Rev. April, 1839, p. 610. Bellini: Anali univ. de Med. July, Aug. 1836.

† Langier sur la cauterization du vagin au fer rouge. Encyclop. des Scien. Med. vol. xxxvii. p. 192, Sept. 1835.

‡ Med. Gaz. May 18, 1839, p. 283.

§ Mem. sur le Treatment de la Chute de l'Uterus, by M. Desgranges, Paris, 1853.

"If the woman is at the end of pregnancy, or if the womb was to descend during delivery, provided the os uteri came into sight through the external parts, I suppose it would be your duty to dilate the os uteri with the fingers, and in this way accelerate the birth of the child as much as possible; but if it was down a little way merely, I should not meddle with it, but leave the woman to her own resources. But if in the latter months the womb were lying externally and between the limbs, and it could not be put back, I should recommend the bringing on of delivery by puncturing the membranes; and then, when parturition came on, I should as before assist in dilating the os uteri. In Harvey's case, it was proposed to extirpate the uterus; but I certainly prefer the induction of parturition before extirpation."*

CHAPTER XXIV.

INVERSION OF THE UTERUS.

409. Inversion of the uterus differs widely from prolapse; for, in addition to the depression common to both, in the former the uterus is turned inside out. The fundus descends through the os uteri, forming a cavity lined by the peritoneum, open towards the abdomen, and containing the ovaries and fallopian tubes; whilst that which was formerly the lining membrane of the uterine cavity has become the external covering of the tumor.

The degree of inversion may vary: It may be either *partial* or *complete*. Dr. Newnham, who has published a valuable monograph on this subject, has spoken of three degrees—*depression*, *partial*, and *complete* inversion. With regard to the first, he observes: "The fundus of the uterus is depressed within its cavity, but does not form a tumor in the vagina. The actual existence of this stage of the disease can only be known by introducing the finger into the uterus, and by ascertaining the state of the organ by pressure upon the abdomen. By the *former process*, the fundus of the womb will be found to have approached the os internum; and by the latter, a corresponding depression will be observed, instead of that regular contraction which is so familiar to every prudent practitioner. This state is generally accompanied with an effort to bear down, by which it is often converted into

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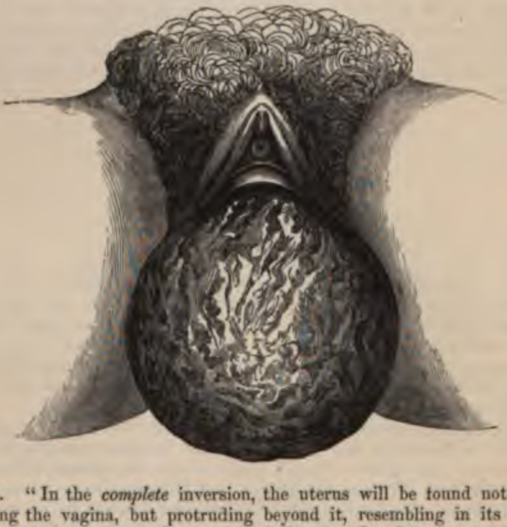
* Blundell on Diseases of Women, p. 43.

partial or *even complete* inversion." Of course, so slight a change in the uterus is only perceptible through the parietes of the abdomen, when the patient has been recently delivered. In the unimpregnated uterus, such an examination would yield no information. "When the inversion is *partial*" continues Mr. Newnham, "the fundus of the uterus is brought down into the vagina, forming a tumor of considerable size, presenting a semi-spherical form, and closely invested by the os uteri. In this case the depression of the fundus, observed through the parietes of the abdomen, will be considerably greater than in the former, and the edge of the cavity thus formed will alone be felt. "In the *complete* inversion, the uterus will be found not only filling the vagina, but protruding beyond it, resembling in its form that of the uterus after recent delivery, only that its mouth is turned towards the abdomen. The os uteri may be felt at the superior extremity of the tumor, forming a kind of circular thickening at its apex, and the uterus is wholly wanting in the hypogastric region. This is usually accompanied with inversion of the vagina."*



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* An Essay on the symptoms, causes, and treatment of Inversio Uteri, &c. by William Newnham, Esq. pp. 2, 3. I feel great pleasure in acknowledging my obligations to this admirable essay.

410. Inversion may occur under very different circumstances; as, for example:—1. *Immediately after delivery*,[*] as the result of a peculiar condition of the uterine fibres; of too quick delivery, &c. Dr. Skae has recorded one case which occurred after an abortion of four months; and it was reduced twelve hours afterwards.[†]—2. *A few days after parturition*, though Newnham conceives that in these cases *depression* of the fundus existed from the first.—3. Or *very gradually*, in consequence of a polypus attached to the fundus, the uterus not being pregnant.[‡] Capuron and Newnham doubt the existence of such cases; but several are on record, and I shall cite one hereafter, which I witnessed myself, and of the nature of which no doubt could be entertained. We may be deceived, however, and suppose an inversion to have occurred gradually, because it has remained long undiscovered. Levret mentions a case occurring after delivery, which was not detected for five years.

By almost all authors, inversion has been divided into *acute* and *chronic*; not, however, confining the term chronic to cases where the production of the inversion has been slow, but including all those where it had existed for some time. The division appears to me to be useful and practical, though perhaps not conveying so much information as the terms '*reducible*' and '*irreducible*,' which my friend Dr. Radford[§] of Manchester has proposed as a substitute.

411. *Causes.*—Various causes are enumerated by authors, some of which are real, and some only fanciful. Most of them, however, are such as would act merely mechanically. It has been observed to follow very quick labors, especially if the patient be delivered standing, or if she make too violent efforts. It may occur spontaneously, after the labor has been completed quite naturally, and in these cases it has been attributed to atony of the uterus, or to active contraction of one part, with an atonic condition of another. At the end of Denman's observations upon inversion, Dr. Waller subjoins a case related to him by Dr. Williams of Guildford-street, which convinced him of the possibility of spontaneous inversion. "The Doctor had attended a lady in her fourth labor; the pelvis was of ample dimensions, the child soon expelled. The funis was tied, and the child separated: immediately afterwards there was a *long* expulsory pain, by which Dr. W. naturally enough inferred that he should find the placenta detached and thrown off. On regaining his seat by the side of the bed, and making an examination, he felt a large substance protruding from the

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[*] Williams: Lancet, July 27, 1839.

[†] Ed. Med. Journal, May, 1849, p. 773.

[‡] Jourdan: Dict. de Med. vol. xxiii. p. 289. Higgins: Edinburgh Monthly Journal.

[§] Dublin Journal for Sept. and Nov. 1837.

vagina, which proved to be the organ in an inverted state. The organ, with the placenta still adhering, was promptly returned to its proper situation, and every thing went on favorably."* Dr. Radford relates the following case:—"The subject of this accident was Mrs. Birch, of Great Bridgewater-street, a well-formed, healthy young woman, and this was her first confinement. I was summoned to her on the 17th day of May, 1826, about three o'clock in the afternoon. I found her walking about the room, with pains, bearing down and effective. In a short time after my arrival, whilst leaning forward on the bed, she was delivered of a fine healthy male child; from this position (as soon as the child was separated) she was removed carefully into the bed; in less than ten minutes she had a slight pain or two. My patient expressed some fears lest the placenta '*should stick;*' but on my making an examination *per vaginam*, I distinctly felt the insertion of the funis into the placenta, and relieved my patient of her fears as to its being retained unduly. I had scarcely assured her that all was likely to terminate well, when she was suddenly seized with a violent bearing down pain; and on making a further investigation, I discovered what I took, for the instant, to be the placenta pushed forward by a second child's head; but having recourse to ocular investigation, I was soon undeceived in this respect, and found the uterus inverted, and which had passed externally from the vagina, and the placenta attached to it. I felt very much alarmed for the fate of my patient. I first peeled the placenta from the fundus uteri, and then grasping the extruded part with my hand, I did not find it very difficult to re-introduce it into the vagina, and to carry it through the os uteri. I followed with my hand, or rather pushed it forward, when I observed it suddenly start from me, as a piece of india-rubber would. I was now called by the nurse to examine the state of my patient, which indeed was very alarming. Her face became suddenly pale, and bedewed with cold sweat; her pulse was rapid and unsteady, there was great prostration of strength, and a threatening of convulsions and death. Brandy and laudanum were immediately administered, in free doses, hot flannels and frictions were applied to the extremities," &c. She ultimately did well; and the author adds, "I would remark, first, that this inversion was entirely spontaneous, as I had not even taken hold of the funis at the time it happened. Secondly, as there was no hemorrhage, and as the re-inversion was effected in a few seconds, it is somewhat difficult to account for the sudden depression of the vital powers, amounting nearly to dissolution." "It appears to the writer, that the uterine pain, diminution of bulk, firm resisting feel, sudden formation, and rapid protrusion, warrant him in the deduction, that the *fundus* and *body* of the uterus, so far from being in a state of *collapse* or *relaxation*, are really in a state of *unnatural excitement and action*. But this is not the case with the os uteri; on the contrary, it is soft and yielding, as we find that it offers no resistance to the coming down of the tumor, whose protrusion is forcible and rapid. "From what has been stated, it may be concluded that quick labor, whether natural or artificial, or a disturbance of this process in any of its stages, and all those circumstances which produce irregular contraction of the uterus, are, singly or combined, the causes of inversion."* Nauche considers the inactive state of the uterus, and some effort made by the patient, or by an attendant pulling the cord, as the principal causes.† Capuron enumerates, as *predisposing* causes, the development of the womb, the dilatation of its orifice, and the atony or flaccidity of its walls. The *exciting* causes may be the weight of the fundus, violent expulsive efforts, tractions by the funis, and the dragging downwards by a polypus. Henkel attributes this accident to violent after-pains; Meissner to a bodily pre-disposition, owing to a laxity of fibre. Siebold says, that atony of the uterus, with a large pelvis, and the too rapid abstraction of the contents of the uterus, may expose the patient to inversion.‡ Boivin and Dugès enumerate, as among the principal causes of inversion, a flaccid distensible state of the uterine parietes; inertia of the uterus, especially if at the same time an effort be made for the extraction of the placenta; irregular uterine contraction, too prominent sacral promontory, dragging at the cord, and uterine polypus.§ Dr. Tyler Smith regards inversion as depending upon an irregularly active condition of the uterus, by which the fundus is first depressed, then carried downward by the annular contraction of the uterus, and finally, *completely* everted. It is very credible, that violence in extracting the placenta may be followed by inversion;‖ or as Denman observes,¶ "there is reason to believe that the uterus has been inverted, when, on account of hemorrhage, or some other urgent symptom, the hand has been introduced within the cavity of the uterus, while in a collapsed or wholly uncontracted state, and the placenta being withdrawn before it was perfectly loosened, the fundus of the uterus has unexpectedly followed, and a complete inversion has been occasioned." Forcibly pulling the funis, for the purpose of detaching the placenta, may perhaps, under certain circumstances, give rise to this accident; but it is not a frequent cause. Shortness of the funis, or the shortening of it by coiling round the neck of the fœtus, has been alleged, but I believe without any foundation. Cords of eight inches long will permit, and have permitted, the exit of the fœtus without displacing the womb, and it is very rare indeed to find the funis so short. "The practice of pulling too early and too violently at the cord," says Mr. Radford, "after the expulsion of the child, before the uterus has contracted, so as to detach and expel the placenta, has been generally considered as the cause of the inversion. But we know that the accident happens before any force has been applied to the funis.* In case 4th, the descent was so rapid and forcible through the os externum, that it would have been quite impossible to have resisted the unnatural action by which the organ was carried down. It has occurred when the patient has been delivered of a dead child, the funis being so putrid as to break with a very slight effort. It has been found before the cord was divided, and the child given to the nurse. In the practice of Ruysch, this circumstance took place after he had extracted a dead child," &c. "Some writers have thought that a short funis is a frequent cause of inversion; whilst others think, in order to act, it must be inserted in the centre of the placenta, and that this mass must be attached to the fundus uteri. Now it is evident that if the brevity of the cord is capable of producing so serious an accident, this peculiarity will greatly add to its influence. But amongst the published cases of inversion, there is, so far as the writer knows, but one where this shortness existed.† It often occurs without diminished length in the cord, whilst, on the contrary, children are frequently born where it is very short, and yet no such accident happens.‡ The funis has been ruptured, and yet the uterus was not inverted."§

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* Waller's Edition of Denman's Midwifery, p. 244, *note*.

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* Radford's Essay in Dublin Journal.

† Mal. prop. aux Femmes, vol. i. p. 121.

‡ Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 365, et seq.

§ Diseases of the Uterus, p. 117, et seq.

‖ Manning on Female Diseases, p. 285.

¶ Midwifery, p. 421.

As to the shortening of the cord, when it is twisted round the neck, this can never be the case of inversion, inasmuch as it rarely occurs but when the cord is longer than usual, and it very seldom reduces the length of the cord below twelve inches.

But inversion may occur quite unconnected with parturition, contrary to the assertion of Astruc, and some of the older writers. If a tumor form at the upper part of the fundus uteri, it will first distend the uterus mechanically, and then by its weight it may descend through the os uteri, dragging the fundus after it, and so produce complete inversion.* Such a case I saw in Jervis-street Hospital, and I am enabled to add the particulars by the kindness of Dr. Montgomery, to whose care the patient was confided by Surgeon Lynch. Bridget Mahon, aged 52, mother of ten children; her last confinement took place nine years ago: admitted into Jervis-street Hospital June 5, 1835, under Surgeon Lynch; was seized about three years ago with whites, which continued for two years: she attributes the attack to excessive mental anxiety and fatigue. Her health, from the commencement, gradually declined; the debility and emaciation became so great, that she was frequently obliged to remain in bed. Being seized with a severe fit of vomiting, she experienced a sensation as if something within her had given way, but did not make any examination at the time; about three days afterwards was alarmed by the appearance of a tumor at the external parts, which she reduced by moderate pressure with the fingers. It remained so for three months, the discharge still continuing. One day she sat down to pass water, the tumor again appeared, but was reduced, and remained so for the next twelve months. On the 1st of June, as she stepped over a potato-furrow, the tumor was completely expelled, suspended between the thighs, in which state it still remains. Her labors were all easy, and during the whole course of the disease she did not experience any difficulty in emptying either the bladder or rectum. The tumor consisted, at the lower part, of a large double-headed polypus, attached by a thick and very short pedicle to the fundus uteri, which was completely everted, and formed the upper portion of the protruded tumor.

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* Radford's cases; Dr. Albers, in Duncan's Annals of Med. vol. v. p. 390; Mr. Windsor: Med. Chir. Trans. vol. x. p. 395; Mr. Dickenson's case, Med. Gaz. No. 372; Dr. Dewees' case, &c. Smith: Med. and Phys. Journal, vol. vi. p. 503. Brown: Mem. of London Med. Soc. vol. v. p. 202. Welsh: Med. and Phys. Journal, vol. v. p. 451. Obs. Anatom. Chir. obs. 10, p. 13; *trans.* p. 34.

† Dr. King's case, Glasgow Journal, vol. i. p. 17.

‡ Med. and Phys. Journal, vol. lv. p. 205.

§ Gifford's cases, No. 92, 127, 175, 194, 199; Perfect's cases, No. 109, 132: Rambsbotham's cases, No. 28, 31, 32, 33, 34.—*Radford's Essay.*

A curious case of this kind is also related by Dr. Browne, in the Dublin Medical Journal;† one by Dr. Oldham, and another more recently by Dr. Higgins, who successfully removed both the uterus and tumor with the knife, having previously tied a tape around the upper portion, as a precaution against hemorrhage. The patient bore the operation well, and recovered perfectly.‡

412. *Symptoms.*—We shall first examine the symptoms which arise in *acute* inversion, *i. e.* when it occurs soon after delivery, and when the displacement is nearly or quite *complete*. These are always serious and alarming, indicating the important nature of the accident. The most universal symptom is sudden exhaustion, or sinking, which comes on immediately after the inversion. It does not depend upon flooding, for it occurs in many cases where there is no hemorrhage. The countenance becomes deadly pale, the voice weak, the pulse rapid, small, and fluttering, nausea and vomitings occur, &c. so that the patient is

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* Mal. prop. aux Femmes, vol. i. pp. 132 and 192.

† Vol. vi. p. 33.

‡ Ed. Monthly Journal, July, 1849, p. 889.

suddenly threatened with the utter extinction of life.* Several authors speak of more decidedly nervous symptoms, and even of convulsions; but by some, at least, the restlessness and agitation preceding dissolution appear to have been mistaken for convulsions. When the inversion is slighter in degree, these phenomena will generally be found less strikingly marked.

Hemorrhage, even to a very large amount, not unfrequently occurs, aggravating, though not changing, the symptoms already enumerated, and materially enhancing the danger of the patient. Mr. Newnham observes: "When the uterus has become inverted, immediate hemorrhage takes place, which is quickly followed by faintness, and a sense of fulness in the vagina; and in the greater number of instances, almost by immediate dissolution."† Our suspicions of inversion will be excited when this persists longer than usual, and examination should instantly be made to ascertain the cause, if possible. Speaking of the duty of examining a patient carefully, in whom there are suspicions of inversion, Denman observes: "The reasons advanced to prove the necessity of ascertaining the inversion are—1st. That the patient may be relieved from her present danger. 2nd. That a part of so much consequence may not be suffered to remain in that state, even if there were no hemorrhage, or symptoms of immediate danger. 3rd. That if it were not soon replaced, it could not, after a very short time, be restored to its proper situation."‡

In many cases, however, there is no hemorrhage at all, according to Brown,§ White,‖ Albers,¶ Chapman,** Hamilton,†† Radford, or not in proportion to the inversion, according to Newnham, Dailliez, Burns,‡‡ but merely the nervous symptoms and exhaustion; nor does the difficulty of rallying the patient seem to be less than in the cases accompanied by flooding.

There is generally a very violent uterine contraction, immediately preceding or accompanying the inversion, leading the patient to anticipate a second child. This suspicion is further confirmed by the pressure of the inverted uterus as it passes through the pelvis. Even after examination *per vaginam*, we may be deceived by mistaking the uterus for the breech of a second child. The patient complains of great pain, with a sense of dragging from the loins, and occasional retention of urine. If pressure be made on the abdomen, we shall not be able to feel the contracted uterus; and this being at a time when it is large, constitutes a marked and valuable symptom. When the inversion is incomplete, we may often feel the uterus above the brim of the pelvis, but having a cup-like depression superiorly. If we examine *per vaginam*, we shall find a tumor either in the cavity of the pelvis, or hanging through the vulva. This tumor is globular, sensible, elastic, with a rough and bleeding surface, wider below than above, where it is tightly encircled by the cervix uteri. If the displacement be not reducible, it sometimes happens that the tumor is attacked by inflammation, running on to sloughing and gangrene, owing to the strangulation caused by the contraction of the cervix, and ending in the death of the patient.* If the placenta have not been previously expelled, it will be found adherent to some part of the tumor, adding greatly to its bulk.

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* Case of Inversion of the Uterus, by Dr. Albers of Bremen, in Duncan's Annals of Med. 1800, p. 390.

† Essay on Inversion, p. 86.

‡ Midwifery, p. 420.

§ Annals of Medicine, vol. ii. p. 278.

‖ Med. Comment. vol. ii. p. 268.

¶ Annals of Medicine, vol. v. p. 392.

** Treatise, p. 123.

†† Med. Commentaries, vol. xvi. p. 316. Midwifery, p. 420.

‡‡ Midwifery, p. 518.

A considerable difference in the size of the tumor will be observed, according as the inversion is *complete* or *incomplete*, recent or of old standing. "In the fourth degree (complete inversion), which is the most rare, the volume of the tumor is commonly larger than that which the uterus ought to present, even immediately after delivery; it is then, in fact, distended by portions of intestine, together with the fallopian tubes and ovaries. Several cases of this kind are upon record, the earliest of which is that of Stalpart Vanderwiel, in which the intestines were laid bare after death by an incision of the tumor, still in its situation between the femora. Baudelocque has given a case somewhat similar, and Ruysch has drawn a tumor, the volume of which is six inches in all directions. We learn from Levret that the sac formed by the inverted uterus and vagina, in the case of a person seventy years of age, was filled with a portion of the rectum, of the bladder, and of the small intestines, and with the fallopian tubes and ovaria."†

If quite *complete*, we may acquire further information from a visual examination. The tumor is of a red color when the inversion is recent, but gradually becomes of a dull brown. "The tumor, which may be felt even outwardly, is commonly voluminous, soft, partly reducible, of a red-brown and blood-color; moist, in the earlier periods at least; paler at times, and dry after a long while; increasing and diminishing at intervals, when it encloses portions of intestine: the finger introduced between its surface and the parietes of the vagina, discovers a *cul de sac* at a height which varies, and always presents previously a circular band, projecting upon the base of the tumor, to which it belongs." In minor degrees of inversion, "the tumor, less voluminous, and concealed, may still be seen by means of the speculum: its surface is to be found smooth and moist, of a deep red color, and sometimes covered with ecchymoses; when the displacement is recent, even the orifices of the uterine sinuses may be observed exuding blood; but we do not perceive the os uteri any more than in the former cases—a circumstance which at once distinguishes inversion from prolapsus of the uterus."*

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* Astruc: Diseases of Females, vol. ii. p. 228. Manning on Female Diseases, p. 285.

† Boivin and Dugès: Diseases of the Uterus. p. 114.

If *incomplete*, we shall still be able to detect it in the vagina; though if there be *depression* merely, we may not be able to reach it.

413. The foregoing are the most prominent symptoms of *acute* inversion; those which characterise the *chronic* stage of the disease, whether that stage be the issue of an *acute* attack, or the result of a gradual displacement, are of course much less formidable. The patient is subject to occasional irregular hemorrhages, and to a constant profuse mucous discharge during the intervals. Every month the surface is observed to be covered with red drops, which are, in fact, the menses. The patient complains of pain, a sensation of weight in the pelvis, and dragging from the loins. If the uterus protrude through the external parts, its sensibility will greatly diminish, in consequence of the formation of a kind of epithelium upon its surface; and if it be exposed to rude contact, or if acrid secretions be allowed to accumulate upon it, circumscribed inflammation may occur, followed by ulcerations, either superficial or profound, and involving some danger to the patient if not remedied. The constitution of the patient sympathises deeply with so extraordinary an accident. After recovery from the state of exhaustion, or nervous depression, into which she was at first thrown, the repeated hemorrhages and constant leucorrhœa will render her countenance pale and exsanguined, and subject her to the various secondary symptoms, such as syncope, dropsical effusions, hectic, &c.

414. *Terminations.*—The patient may die from exhaustion, or from hemorrhage, soon after the accident, according to Heister,† Peu,‡ Levret, Gifford, Windsor, Clarke, Denman,§ Boivin and Dugès, or

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* Boivin and Dugès: Diseases of the Uterus, p. 120.

† Heister's Surgery, vol. ii. p. 559.

‡ Practique des Accouch. pp. 585—587.

§ "Uterine hemorrhages, following the extraction or exclusion of the placenta, though often apparently dangerous, very seldom prove fatal; yet now and then we hear of a patient dying from this cause. May it not be suspected, that in such cases there was an inversion of the uterus, partial or general, which, together with hemorrhage, is always attended with dreadful disturbance of the whole nervous system."—*Denman's Midwifery*, p. 422.

from the more remote consequences of the repeated hemorrhages, according to Mauriceau,* Haighton,† Cooper,‡ Windsor.

Fatal cases are also related by Peu, Portal,§ Vanderweid and Millot, Chapman,‖ Saviard,¶ Heister,** Smellie,†† and Mauriceau.‡‡ Boivin and Dugès add, that "death following a very few days after the inversion may have been occasioned by pains, convulsions, and syncope, caused even by the violence which the uterus has undergone." Distension and inflammation of the bladder may occur, involving considerable danger.§§ The inverted uterus may be strangulated, and be separated by sloughing or gangrene, with great danger, although cases are on record where this termination issued favourably.‖‖ Or, if the patient do not shrink from the primary shock, and if no destructive process take place in the tumor, it will after a while shrink very much in size and the patient may suffer comparatively little annoyance. Denman¶¶ mentions the case of a patient who consulted him for an inverted uterus, twenty years before her death; and Delamotte another, "in which the inversion was complete thirty years before."***

Very rarely, the detruded organ has become the seat of malignant disorganization, either cancer or corroding ulcer.

415. *Diagnosis*—The facility of the diagnosis will depend very much upon the extent of the inversion: when incomplete, it is very difficult; and even when complete, it will often require great care. It is less obscure if the examination be made soon after the accident. "It is generally remarked, that *inversio uteri* may be distinguished from polypus of that organ, by the *os uteri not encircling the former tumor in cases of complete inversion*; and by *the impossibility of passing the finger around the neck of the tumor, between it and the os uteri, where the inversion has been only partial; by the form of the tumor, polypus* being *broad at its base,* and attached by a *narrow peduncle,* while the *inverted uterus is broader above than below;* by the

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* Traite des Accouch, vol. ii. p. 294.
† MS. Lectures.
‡ Surgical Dictionary, art. Inversion of the Uterus.
§ Obs. 76.
‖ Midwifery, case 29.
¶ Observ. 15 and 36.
** Observ. case 369.
†† Midwifery, vol. v. case 3, p. 444.
‡‡ Observ. 355, 398, 685.
§§ Burns' Midwifery, p. 519.
‖‖ Ryan's Journal, March 12, 1836.
¶¶ Midwifery, p. 421.
*** Boivin and Dugès: Diseases of the Uterus, p. 115.

insensibility of the tumor in the one case, and by its extreme sensibility in the other: by the *comparative fixity* of the one tumor, and the *extensive sphere of motion* of the other; by the *rough and fungous surface* of inversio, contrasted with the *smooth and polished* circumference of polypus, and by the previous history of the patient's disease. But it is clear that these diagnostics are liable to a great degree of uncertainty, as appears from the contradictory statements of various authors; from the consideration that *the first and second rules are chiefly applicable to very recent cases of inversion*, or to *those instances in which partial inversion has taken place but has not carried down the fundus of the uterus in any great degree through the os uteri;* from the fact, that in the case just related, *the neck of the tumor was certainly smaller than its base*, and *the finger could be freely passed as far as it could reach within the os uteri*, and *around the inverted portion of the uterus;* from the *difficulty of distinguishing obscure sensibility of the tumor itself* from *the sensibility of neighbouring organs, roused* into *feeling* by the *irritation* of examining the parts; from the *vagueness* of the diagnostic, arising out of the *comparative fixedness* of inversio or polypus, which must depend so entirely on the size of the *body of the tumor*, as well as the broadness of its stem, where it is attached to the uterus; from the *fact*, that according to the *length of time* which has elapsed since the inversion, and from other circumstances, its surface will be *rough and fungous-like*, or *smooth and polished;* from the *possibility* that the *same phenomena* may have attended the *history of each form of disease;* and from the fact that *polypi* and *inversion of the uterus* have been *repeatedly* and *interchangeably confounded* one with another."* Although Mr. Newnham has succeeded in showing the uncertainty of each of the diagnostic marks, and has elucidated the great care necessary in forming our conclusions, still he has not shewn that a combination of these signs may not be conclusive; nor has he proved that all our efforts will be in vain. The following references will show that I am not singular in this opinion:—Dr. Baillie says that "when the inversion is complete, it can be ascertained by an examination of the tumor."† Dr. Haighton‡ relies for diagnosis upon the history of the case, and the sensibility of the tumor principally. Sir C. M. Clarke§ says, "an examination being made, a tumor is found either in the vagina, or hanging out of the external parts. Such a tumor may be mistaken for a polypus; but in the latter disease, the os uteri encircles the tumor: in inversion of the uterus, the os uteri forms a part of the tumor itself: the inverted uterus is sensible; polypous tumors, on the contrary, are void of feeling." "In distinguishing an inverted uterus from polypus," says Dr. Blundell, "it may be no small help to recollect, that a genuine polypus is totally insensible; and that a great deal of pain may be felt on constricting the ligature if the disease be inversio uteri; and this more especially some two or three hours after the constriction. There is, too, in some instances, a disposition to vomit."* Nauche† states the possibility of diagnosis from the following symptoms:—The absence of the uterus from its natural position, the sensibility of the tumor, its greater diameter being at the superior part, and its irreducibility. Capuron,‡ after stating that it may be confounded with prolapsus or polypus uteri, goes on to say that the distinction must be sought in the shape and sensibility of the tumor, the presence of the cervix uteri at the upper part of the inversion, and by the neck of the tumor being short, instead of being long and thin as in polypus. Siebold§ lays great stress, as diagnostic marks, upon the time of the occurrence of this displacement; upon the absence of the uterus from the abdomen; the form of the tumor and of its stalk, &c.; at the same time that he admits that great care is sometimes required to distinguish it from the polypus. Boivin and Dugès‖ (as already quoted) adduce the absence of the os uteri from the lower part of the tumor, as distinguishing inversion from polypus, and then continue: "What distinguishes the case still more, is the height to which the finger may be carried between the tumor and the vagina; the finger thus passes when the hypogastrium is compressed with the other hand, to the os uteri, which forms a ring at the upper part of the vagina, and embracing the root of the tumor, *without adhering to it;* the finger may, in fact, be passed between the ring and the root of the tumor, but is soon checked by a circular *cul de sac.*"

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* Newnham's Essay, p. 53.

† Morbid Anotomy, p. 391.

‡ MS. Lectures, 1809, quoted by Mr. Newnham, p. 76.

§ Diseases of Females, vol. i. p. 153.

If *incomplete*, it may be mistaken for *polypus of the uterus;* but it will be distinguished by its bleeding and rough surface, by its sensibility, and also by the '*cul de sac*' within the os uteri.¶

2. If *complete*, it will resemble *prolapse of the uterus*, but may be distinguished by the peculiar period of its occurrence, by the flooding, by the absence of vaginal covering, of the bladder anteriorly, and of the os uteri inferiorly.

3. It may be distinguished from *prolapse of the vagina*, by its hardness, its rough, flocculent, and bleeding surface, and by its unvarying size.

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* Diseases of Women, p. 143.

† Mal. prop. aux Femmes, vol. i. p. 131.

‡ Mal. des Femmes, p. 501.

§ Handbuch zur Erkenntniss und Heilung der Frauenzimmerkrankheiten, vol. iii. pp. 361, 362, 363.

‖ Diseases of the Uterus, &c. p. 120.

¶ Carus Gynæcologie, vol. i. p. 381.

It should be observed, that the value of some of these distinctive marks is limited to a short period after the accident, and to those cases which occur after delivery; such, for instance, as the hemorrhage, the character of the surface, and the size of the tumor, &c.

416. *Treatment.*—1. Of *acute* inversion. Our first object is unquestionably to reduce the displaced organ, and if we are on the spot when the accident occurs, it is in general not very difficult. It is of the last importance that the reduction be attempted instantly. Every hour increases the difficulty; and the lapse of four or five, according to Denman, may render it impossible. The period when the inversion becomes irreducible will be found to vary somewhat in different cases, and according to the experience of different practitioners. There is also a great difference, according as the inversion is complete or incomplete. It has been stated to have been reduced spontaneously, when the fundus uteri was merely depressed,* and even when the displacement was complete.

But no anticipation of such an occurrence will justify our losing a moment in attempting to reinvert the uterus. The protruded organ should be grasped firmly, and passed in through the vaginal orifice, followed by the hand (previously well oiled), which, when in the vagina, should be closed and formed into a cone, and made to press mainly upon the fundus uteri. Newnham† remarks, "It has been made a question whether the finger of the operator should not be defended by some soft linen; and mechanical means have been proposed: but it is obvious how improper must be all such contrivances; and it is clear, that the best instrument is the cautious introduction of the hand, well smeared with some fatty substance, and its *gentle* and judicious employment." Burns‡ directs us to "proceed directly to endeavour to return it within the os uteri, by cautiously grasping the tumor in the hand, and pushing it upwards within the os uteri. This may be facilitated by pressing upon the most prominent part of the fundus, in the direction of the axis of the uterus, so as gradually to undo the inversion, or reinvert the protruded womb." Mr. Radford§ objects to this, on account of the fundus being, "after the os uteri, the most irritable part of this organ. When the accident has existed a short time, pressure upon this portion induces pain, bearing down, and hemorrhage; but the body may be taken hold of and compressed. If we could press the fundus upward, and thereby dimple it within itself, we should find ourselves opposed by a double inflection, for the body would be grasped by the os uteri, and the fundus would be within the body. It is obvious that our force should be directed so as to act upon the angle of inflection, or where it turns into itself.

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* Capuron: Mal. des Femmes, pp. 504—509.

† Essay on Inversion of the Uterus, p. 15.

‡ Midwifery, p. 520.

§ Dublin Journal for Nov. 1837.

No effect will be produced upon the inversion until the vagina shall have been put upon the stretch; but then, after some time, it will be found to recede; and on being still further pressed, it suddenly starts from the hand (like a bottle of india-rubber when turned inside out), and the organ is restored to its natural condition. The hand (now in the cavity of the uterus) is not to be withdrawn, but rather expelled by the uterine contraction. This will ensure the patient against a repetition of the accident. We should also assure ourselves, before the removal of the hand, that the restoration has been complete. Mr. Newnham advises that we should endeavour to "return first that portion of the uterus which was last expelled from the os uteri." It will be found very difficult to attend to this minutely, when the hand with the uterus is in the cavity of the pelvis, for want of room; and whilst the tumor is external, the re-inversion does not take place. It is expressly stated by several authorities, that they did not feel the reduction properly commence, until the vagina was stretched to its full extent.

In many cases, the placenta remains attached to the womb at the period of inversion; and different opinions have been held at to the propriety of removing it before reducing the displacement. Baudelocque, Gardien, Capuron, Boivin and Dugès, Radford and others, recommend its prior removal; but Denman, Clarke,* Burns, Carus, Newnham, Blundell, Gooch, &c. as decidedly oppose it. "The following objections may be raised to this practice (allowing the placenta to remain until after the reduction of the inversion): 1st. If the placenta adhere, its detachment will be more difficult after the replacement of the uterus. 2. This replacement is difficult enough it itself, without adding the bulk of the placenta to that of the uterus. 3. If we proceed with promptitude, we need not apprehend the consequences of hemorrhagy."† In his essay on inversion of the uterus, Mr. Radford remarks:‡ "The dread of hemorrhage is the reason assigned why the placenta should not be first detached; but the writer trusts that the cases he has adduced, and the references he has made, are sufficient evidences to the contrary. In no case has this dreaded effect been induced, or even aggravated, by a *complete* separation of the placenta. The uterine vessels are as effectually constricted, under this accident, as when the organ is in its natural situation, if the placenta be entirely detached; and flooding is produced here in the same manner as in ordinary cases, by a partial separation or disruption. As the greatest disadvantage arises from our failing in our first attempt, it is the more necessary that every impediment should be removed, so that we can proceed with the greatest chance of success. The attached placenta must increase the obstacle, because the fundus cannot be freely and sufficiently compressed. By detaching the placenta, great advantages are gained; the bulk of the part is diminished, the operator is enabled further to reduce the size of the fundus itself, by compression; and he has more freedom to judge of the changes he has effected. Denman says, on the other hand, "The only point of practice which occurs to me as likely to raise any doubt of the conduct we ought to pursue, is when, together with an inverted uterus, there is an adhering placenta. It would probably be then right to say, that if the placenta be partly separated, it would be proper to finish the separation before we attempt to replace the uterus; but if the placenta should wholly adhere, it will be better to replace the uterus before we endeavour to separate the placenta. The ground of this opinion is, that while we are separating the placenta, the cervix of the uterus is speedily contracting, and the difficulty of replacing it increasing, which is a far greater evil than a retained placenta."* "If the inversion be quite recent," Carus observes, "and the placenta still adhere to the uterus, it is best to return the uterus before separating the former; but if it be in a great measure detached, which is by far the most frequent occurrence, it is advisable to separate it completely before returning the uterus."† Siebold‡ advises that the placenta should not be detached, if the reduction can be accomplished without its removal; but if this be impossible, he advises its separation at once. Mr. Newnham remarks: "It has been recommended by several respectable authorities, to remove first the placenta, in order to diminish the bulk of the inverted fundus, and thus facilitate the reduction. But it is surely impossible that this proceeding can be attended with any beneficial consequences, whilst the irritation of the uterus would necessarily tend to bring on those bearing down efforts which would present a material obstacle to its reduction, and would increase the hemorrhage at a period when every ounce of blood is of infinite importance." "Besides, returning the placenta while it remains attached to the uterus, and its subsequent *judicious* treatment as a simply retained placenta, will have a good effect in bringing on that regular and natural uterine contraction, which is the hope of the practitioner and the safety of the patient."

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* Diseases of Females, vol. i. p. 152.

† Boivin and Dugès: Diseases of the Uterus, p. 124.

‡ Dublin Journal, Nov. 1837.

It may be doubted, I think, whether the removal of the placenta is attended with so much danger; for in many instances it has been found impossible to reduce the uterus, in consequence of the great addition to its bulk which the adhesion of the placenta occasions;* and in such cases there is no hesitation about the propriety of removing the placenta, nor have I met with any evil effects recorded as the result of so doing; and in all cases I should be inclined to remove the placenta before attempting the reduction.

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* Denman's Midwifery, p. 422.

† Lehrbuch der Gynæcologie, vol. ii. p. 423.

‡ Handbuch der Frauenzimmerkrankheiten, vol. iii. p. 375.

When the tumor is in danger of strangulation from the circular band of the fibres of the cervix uteri, or in case such band should seriously impede the reduction, it has been recommended to divide it with a bistoury. Of course the bladder and rectum should be emptied previous to returning the uterus, unless we were present at the moment the accident occurs: at that period the operation occupies so short a time, that catheterism may be deferred until afterwards, and constipation for twenty-four hours will rather be an advantage. If the inverted uterus and the neighbouring parts should be much swollen, or if the patient be feverish, it may be necessary to take away some blood, and foment the parts, before attempting the reduction.

But should the disease be of some days standing, are we to look upon the reduction as hopeless? Certainly not. There are cases on record, of the attempt having been successful after days and weeks have elapsed; and the condition of the patient is so distressing, that no means, however apparently unlikely, should be left untried. In Loffler's case, six or seven hours had elapsed; 17 in Mr. White's case; 24 in Mr. Wynter's; 27 in Mr. Dickenson's; three days in Mr. Cawley's; seven in Mr. Radford's (case 6); eight in MM. Ingleby's,† Chopart's, and Anè's; 10 or 12 in M. Lauverjat's; 13 in M. Hoin's; 12 weeks in Dr. Belcombe's;‡ and 16½ months in M. Valentine's case.§ M. Barrier has succeeded in reducing an inversion of 15 months standing, under the influence of chloroform;‖ and Mr. Canney one of 5 months;¶ and Dr. Ayer one of thirty hours, so that the use of anesthetics may be regarded as a valuable assistance.

If we succeed in restoring the womb to its natural state and situation, great care will be requisite to avoid a recurrence of the accident, or what is more likely, a prolapse of the uterus. The patient should remain longer than usual in the horizontal position, with the head low, the pelvis elevated, and the knees bent. A dose of opium will be found useful; and if there be much exhaustion, it must be repeated, and stimulants in proper quantity be given. A pessary has been advised, in order to maintain the uterus in its place; but this will very rarely be necessary. When the lochial discharge has entirely ceased, it may be beneficial to use some astringent injections into the vagina once or twice a day, especially if leucorrhœa be present.

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* Mr. Brown's case, Annals of Med. vol. ii. p. 277, (1791).

† Facts and Cases, &c. p. 227.

‡ See also a case in the American Journal of Medical Science, vol. xvi. p. 81.

§ Review Med. Chir. Nov. 1847.

‖ Med. Times and Gazette, Sept. 4, 1852, p. 231.

¶ Ibid, Sept. 18, 1852, p. 287.

417. If the inversion be *irreducible*, we must then consider how far it may be advisable to content ourselves with palliative remedies; such as returning the tumor into the vagina, to protect it from injury, and supporting it either by a bandage and compress, as recommended by Dr. Hamilton for prolapsus uteri, or by a pessary. "When the uterus cannot be replaced, we should at least return it into the vagina. We must palliate symptoms, apply gentle astringent lotions, keep the patient easy and quiet, attend to the state of the bladder, support the strength, allay irritation by anodynes, and the troublesome bearing down by a proper pessary." "A spring bandage is also useful. If inflammation come on, as is usually the case, we prescribe blood-letting, laxatives, &c. By these means the uterus may contract to its usual size, and the woman menstruate as usual, but generally the health is delicate. Sometimes the uterus becomes scirrhous, or gangrenous sloughs take place."* Dr. Blundell advises the employment of astringent injections, for the purpose of arresting the "menorrhagic bleedings," "beginning with the weaker solutions, and then gradually increasing their strength, till you have reached the saturated solution, if necessary, and throwing up the injections largely, eight or ten times in the course of the day. The practice is peculiarly important when a woman is about forty-two, because if you can support her for some two or three years, till the monthly uterine action is over, the bleeding will most probably cease, and she will be no longer liable to the disease."†

Should this plan not be practicable, or fail of success, it may then be a question as to the propriety of extirpation. There is abundance of evidence to prove that life may be preserved after the loss of the womb. Rousset relates a case, where the uterus was destroyed by gangrene, and the patient recovered; and Rousset, Primrose, Radford, and Cooke, have given cases, in which the uterus appears to have sloughed off without compromising the patient's life. This being the case, there is every encouragement, within certain limits, to effect that removal by art, which nature thus so beneficially accomplished. In this opinion Sir C. Clarke fully coincides. He observes: "In those cases of inversion of the uterus where the woman has *passed the menstruating age*, when her comfort is destroyed by the disease, and when the profuseness of the discharge threatens her with death, from the debility which it produces, it may be advisable to recommend the performance of an operation which has been attended with success, viz. the removal of the inverted uterus itself." "How far it may be right to resort to this operation *during the menstruating part* of a woman's life, the author has no means of judging."[*] The operation, however, has been performed during the 'menstruating part of a woman's life,' with complete success. We may, therefore, conclude that the operation is perfectly justifiable, provided—first, that the patient is in a fit state of health for an operation; and secondly, that the uterus be not affected with scirrhus or cancer.

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* Burns' Midwifery, p. 521. Clarke on Diseases of Females, vol. i. p. 157.

† Blundell on Diseases of Women, p. 143.

The operation has been successfully performed by Ambrose Parè, Petit, Carpi, Sclevogt, Vater, Laumonier, Bouchet, Boudol, Dessault, Hunter of Dumbarton, Chevalier, Johnson, Hamilton, Clarke of Dublin, Windsor,[†] Davis, Hull, Blundell,[‡] Moss,[§] Lasserre,[‖] Williams,[¶] Newnham, Higgins, &c. Other cases, less fortunate, are on record. Mr. Newnham's case is so instructive, that an abstract of it may be given:—Mrs. Glascock was delivered on the 21st of January, 1817, of her first child, after a natural labor. The funis was remarkably short, the placenta adherent, and much hemorrhage succeeded its removal; retention of urine supervened, requiring the use of the catheter. The patient consulted Mr. Newnham early in April, "on account of a *constant discharge* from the vagina, of a mucous character, accompanied with frequent hemorrhage." "On those days when she had the *least* discharge, it was still very considerable, and required seven or eight napkins in every twenty-four hours, in order to keep her comfortable: but the returns of active hemorrhage were increasingly frequent, and were induced almost by the slightest exertion." Her constitution was seriously injured, and her appearance was that of a person suffering from large hemorrhages. "On examination, I discovered in the vagina a tumor of considerable size, somewhat of a pyriform shape, *larger at its base than at its superior extremity, but not attached by a very narrow neck; surrounded at its apex by the os uteri, between which and the tumor the finger could be readily passed without discovering any immediate connexion; as far as I could ascertain, nearly insensible, and which had never occasioned pain.*" After a consultation with Mr. Oke of Farnham, it was decided to be inversion of the uterus, and it was resolved that its removal by ligature should be attempted on Sunday morning, April 13, 1837. The ligature of very strong silk, was applied "as high as possible, upon the neck of the tumor, taking care to avoid including any part of the os uteri, by carrying the silk within the orifice." A full dose of opium was given, and the patient complained only of a little uneasiness on the sides of the hypogastric region. On the 14th and 15th, the ligature was tightened, which gave considerable pain, and in consequence it had to be loosened. The opiate was repeated, and some aperient medicine ordered. On the 17th, there was much pain and some tenderness on the left side of the hypogastric region, with a quick pulse, which induced Mr. N. to remove the canula, and leave the ligature quite loose. On the 18th, as all unpleasant symptoms had disappeared, the ligature was tightened, and an opiate enema given. From this day till the 6th of May the ligature was daily tightened; the pain continued until the 30th of April, after which it gradually diminished. On the 26th of April and 2nd of May, the patient became excessively irritable, but this subsided. The discharge was fœtid after the 24th, and in considerable quantity after the 29th. "When the ligature was tightened, this evening (May 6th), the tumor became detached, and I found, to my no small satisfaction, that it was, as I believed, an inverted uterus.*

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[*] Diseases of Females, vol. i. pp. 149, 150.

[†] Medico-Chir. Trans. vol. x. p. 358.

[‡] Diseases of Women, p. 144.

[§] British and Foreign Medical Review, April, 1837, p. 561.

[‖] Encyclo. des Sciences Med. vol. xxxvi. p. 179.

[¶] Lancet, July, 27, 1839. See also Med. Chir. Review, Oct. 1830. Siebold's Journal, vol. v. p. 406.

The operation consists in applying a ligature of silk, whip cord, fishing line, or silver wire around the tumor at its highest part, and gradually tightening it, as the patient may be able to bear it, until the tumor is entirely separated. Or a double ligature may be passed through the centre of the neck of the tumor, and each half included in a separate ligature. Or lastly, we may prefer, after tightening the ligature to a certain degree, to remove the tumor immediately, by cutting below the ligature. Before doing this, it will be necessary to satisfy ourselves of the adequacy of the ligature to restrain any hemorrhage.

The symptoms which arise after the application of the ligature are just such as we might expect from the strangulation of so important a viscus. The patient suffers from nausea, vomiting, and pain, which gradually diminish in the more favorable cases, but which are the prelude to peritonitis in the fatal ones. When these symptoms are violent, it will be necessary to loosen the ligature, and wait some hours before again tightening it. A dose of opium should also be given, and the bowels kept free by enemata. The strength of the patient should be maintained by a nutritious, though not stimulating, diet.

If the inversion be caused by, or complicated with polypus, it may be necessary to remove both,† and the polypus should be excised before applying the ligature to the uterus.

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* Newnham's Essay, p. 31, et seq.

† Jourdan: Dict. de Med. vol. xxiii. p. 290.

SECTION III.—DISEASES OF THE FALLOPIAN TUBES.

CHAPTER I.

INFLAMMATION OF THE FALLOPIAN TUBES.

418. THE fallopian tubes are obnoxious to much the same variety of morbid changes as the uterus and ovaries.* From their proximity to the latter, and their continuity of tissue with the former, they participate in the more acute disorders of each. There is no doubt

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* Davis: Obstetric Medicine, vol. ii. p. 760; Dewees: Diseases of Females, p. 257; Manning on Diseases of Women, p. 286; Astruc: Diseases of Females, vol. ii. p. 238.

The following is Astruc's summary of the diseased conditions of the fallopian tubes:—"They may be inflamed, and consequently they are liable to abscesses and gangrene. 2. They may become scirrhous, either in their whole length, or otherwise at one of their ends. 3. They may be covered with hydatids, as well on their exterior surface as on the interior; and some of these hydatids, by growing large, may form an hydatic dropsy. 4. They may, besides, become dropsical, by a collection of serum, which fills their cavity, and dilates it beyond measure, as appears by several accounts. 5. It may happen that the fecundated egg may stop in them, and fix itself to them; and that the fœtus, which is contained in it, may grow till it lacerates the tube, and kills the mother. 6. Encysted tumors may be formed in the tubes, as in other parts; and there may likewise be formed a kind of abscesses, which may have great affinity with them when the fecundated egg is retained in the tube, perishes there, and is converted into a thick corrupted matter; as it happens also in the *ovaria* in parallel cases. 7. It has also been often observed, that the fringed edge of the *corpus fimbriatim* of one of the tubes was fixed to the *ovarium*, with which by that means, the tube cohered, and was rendered incapable of receiving the fecundated egg that fell from the *ovaria*, at some place where it was not brought close to them. 8. Lastly; it sometimes happens that the opening of the tubes into the *uterus* is so exactly that they may, and often are, diseased independently, but it is scarcely recognizable during life; as from their position, any symptoms to which they give rise will undoubtedly be attributed to an affection of their more important neighbours. When they are affected in common with these organs, their symptoms form a small part of the aggregate, and are so masked by the greater disturbance, that the morbid changes going on in them are only discovered after death. Very few of these disorders happen before the occurrence of utero-gestation.

In consequence of this obscurity in diagnosis, little more can be attempted than to give a catalogue of the diseases, with such practical observations as may be necessary. It is worthy of remark, that the appropriate treatment of this class of disorders does not depend upon our distinguishing them from affections of the uterus or ovaries. In each the remedies are nearly the same.

419. The fallopian tubes may be attacked by *acute inflammation*, generally by an extension of that disease from the uterus or peritoneum, in one or other variety of puerperal, but sometimes as an idiopathic affection, in consequence of suppressed catamenia or lochia.

The following case, from Boivin and Dugès, is very instructive: "Madle. B., aged 23 years of age, had been 'regular' from her fourteenth to her twentieth year, when she was attacked several times with inflammation of the lower part of the abdomen, which was re-

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closed, as not to be capable of admitting a hog's bristle to be introduced into it, and that often there does not remain the least appearance of it. The same thing happens with respect to the *corpus fimbriatum*, but more rarely. This state is not followed by any disorder of the functions, when it happens only at one tube; but if both are affected, it causes an incurable barrenness."—*Diseases of Women*, vol. ii. p. 239.

"The fallopian tubes are frequently found to have suffered from inflammation; and besides those morbid appearances resulting therefrom, which have been enumerated as occurring to the peritoneum, the following have also been noticed:—1. A thickened, enlarged, and somewhat indurated state, with the fimbriæ destroyed, and the tube terminated by a 'cul de sac.' 2. A considerable enlargement of the tube, which has become tortuous, and fluctuating when pressed; and which contains a quantity of serous fluid. In some cases it is an albuminous or puriform fluid, and the membranous sides are in these instances very much thickened; the internal surface is covered with a tenacious or floccy albuminous substance, the removal of which exposes an inflamed and somewhat softened surface. 3. The fimbriæ preternaturally florid, and loaded with vessels filled with blood. 4. A total destruction of the fimbriæ, without any other morbid appearance."—*Hooper's Morbid Anatomy of the Human Uterus*, p. 3.

moved by leeches. Sharp and frequent pains continued, however, in the hips on each side, particularly in the region of the sacrum; there was also habitual constipation. This state of things was succeeded by irritation of the thorax, accompanied with heat, hoarseness, and frequent cough; the catamenia became less abundant, and irregular in their return; the affection proceeded very rapidly, and the patient died in six months." *Post-mortem examination.*—There were adhesions between the uterus and rectum, and also tubercles in the uterine parietes. "The right fallopian tube was of a bright red color, obliterated at its two extremities, the fimbriæ of its pavilion entirely effaced; it contained a viscid, reddish, and puriform fluid. The right ovarium was adherent to the tube, by newly formed membranes; it was small, soft, opening in different directions, and presented a fleshy tissue, of a bright red color, uniform, and without the slightest vesicles. On the same side appeared, in the form of the corolla of a convolvulus, the remains of a red solid cyst, which opened into the cavity of the abdomen, and was probably of the size of a walnut. The left ovarium, twice as large as the other, was covered by the right fallopian tube, which was as large as a hen's egg, and of a deep red color. These organs adhered together by a close and solid membrane. The fallopian tube, when dissected, presented a cyst without orifice, containing a spoonful of yellow, inodorous fluid, of less consistency than that of the opposite side. The parietes of the cyst, flattened, elastic, of a red and fibrous tissue, presented interiorly a cellular reddish membrane, which was easily removed by scraping the surface."*

420. The *symptoms* are deep-seated, throbbing pain in the hypogastrium or iliac region, extending to the groins, and down the thighs. There is a sense of heat in the part, with increasing abdominal tenderness. The tongue is dry, the pulse is quick and hard, and there is some thirst. There is said to be swelling, and this is the principal ground of *diagnosis* from ovarian disease.

A *post-mortem* examination† will exhibit one or both of the tubes swollen, red, and vascular, infiltrated more or less with serum, lymph, or pus. The fimbriæ especially are the seat of these changes, and become of a deep red color, and softened. The lining membrane sometimes shows marks of inflammation. "A purulent, viscous, whitish, and partly mucous, sometimes blackish or putrid matter, is occasionally found in small quantities in the interior of the tubes, and, it has been said, within their veins.‡ Purulent deposits may be seated in their parietes, especially in the sub-peritoneal cellular tissue, which is sometimes infiltrated with serous matter, like the fimbriæ of the pavilion.

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* Diseases of the Uterus, &c. p. 504.

† Cruveilhier: Anat. Path. livr. xiii. pl. 3.

‡ Danyau: These sur la Metrite gangreneuse, pl. 11.

Albuminous flakes have frequently been found adhering to their surface."* "After parturition, when inflammation attacks the peritoneum, the fallopian tubes in most cases become red, vascular, and partially or completely bedded in pus or lymph. Their ovarian extremities not unfrequently become softened, of a deep red color; and deposits of pus, in a diffused or circumscribed form, take place within their cavities, or in their sub-peritoneal tissues. Their lining membrane also becomes inflammed, and the canals throughout their whole extent filled with pus.† "The disease may prove fatal on the fourth or fifth day, terminating by resolution from the eighth to the eleventh, or by suppuration from the twelfth to the fourteenth."‡

The *indications* of *treatment* are just the same as in metritis. We must attack the inflammation by general and local blood-letting. In some cases, the repeated application of leeches may be sufficient.

After this, counter-irritation may be tried, at the same time that we may prescribe calomel, alone or with opium, very liberally.

421. *Chronic inflammation* of the fallopian tubes. We cannot doubt the occurrence of this disorder, if we examine carefully the tubes in elderly persons; for we shall often discover changes which could result from nothing else. In addition, it is recognizable during life rather by its consequences than by its *symptoms*, which are very obscure, amounting in many cases to no more than a dull pain in the iliac region, with intervals of perfect ease.

The internal membrane alone may be the seat of chronic inflammation, and to this source Boivin and Dugès are disposed to attribute the discharge in many cases of supposed leucorrhœa, whether uterine or vaginal. Certain deposits are also traced to the same cause. "It is undoubtedly to this kind that we ought to refer the *melanotic* and *tuberculous* diseases; or the deposits of these, sometimes observed either in the tissue itself of the fallopian tube, or at its anterior surface."§ Both acute and chronic inflammation may issue in the formation of the pus, and the abscess may open into the peritoneum, or escape externally. M. Andral‖ has related a case of the latter kind. "The patient had been effected with constipation, then vomitings, and pains, at first in the right side, and afterwards in the left, of the abdomen, and in the right thigh. A tumor was gradually formed in the left side, accompanied with fever, emaciation, purulent diarrhœa, and death. On examination, there were traces of peritonitis and of enteritis. The left fallopian tube, considerably dilated by the pus, though still tortuous in part, and therefore distinguishable, opened into the rectum by an orifice capable of admitting only a quill; the corresponding ovarium, as large as a nut, also contained pus, without communication with that of the tube. The right tube was also enlarged, and contained some purulent matter; the ovarium, situated entirely within the pelvis, was of the size of a large hen's egg, and also filled with greenish, viscus pus; the uterus was healthy." This case illustrates the symptoms as well as the termination of an inflammatory attack.

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* Boivin and Dugès: Diseases of the Uterus, &c. p. 503

† Lee: Cyclop. of Pract. Med. vol. iv. p. 377.

‡ Nauche: Mal. prop. aux Femmes, vol. i. p. 371.

§ Ibid. p. 502.

‖ Anatomie-Pathologique, tom. ii. p. 700.

422. The exact *diagnosis* is very difficult. We must be content with the conviction that some of the pelvic viscera are affected, and direct our *treatment* to the relief of the prominent symptoms. Of this treatment, counter-irritation, with calomel and opium, will form the principal feature prior to the formation of matter.

Pus in the fallopian tubes may, however, be derived from another source, "as in the case recorded by Laumonier,[*] inasmuch as the ovarium was partly excavated, and concurred with the fallopian tube in the formation of an enormous abscess." Similar cases have occurred to Boivin and Dugès.

423. There is a consequence of inflammation, either acute or chronic, which has not been noticed, viz. the *obliteration of the canal* through the fallopian tubes. This may occur at the uterine or ovarian extremity: when the latter is the case, the fimbriæ are found adhering to the ovarium. According to M. Andral obliteration may occur about the middle: even the entire tube may lose its cavity: this, however, is not a very common case, and the obliteration is generally only partial; and then there is an accumulation, in the remaining cavity, of sero-mucous matter, which may become more or less abundant. Dr. Hooper says, "Their fimbriated extremities are frequently, in consequence of acute or chronic inflammation, firmly united to the ovaria, posterior part of the uterus, omentum, and other contiguous parts. The structure of the fimbriæ is often completely destroyed, and the tubes terminate in a 'cul de sac.' The canals of the tubes are also sometimes obstructed, and sterility is the result. The obstruction may be partial or complete. One of the most frequent morbid appearances which the writer has observed, in the bodies of young subjects after death, is adhesion of the fallopian tubes to the ovaria, by short, firm, adventitious membranes, or by long, slender, transparent filaments."[†] "When the fimbriæ of the fallopian tubes are destroyed, the opening from the tube into the cavity of the abdomen is generally obliterated, the tube is enlarged toward the abdominal extremity, and the canal terminates in a cul de sac. The tubes, in these instances, are found increased in size, and are mostly tortuous, or of a pyriform

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[*] Mem. de la Societe Roy. de Med. 1782, p. 299.

[†] Morbid Anatomy of the Human Uterus, &c. p. 34.

shape; their sides are thicker, and traces of pre-existing inflammation are mostly detected. This is a diseased state of frequent occurrence."*

424. The obliteration of either or both extremities may give rise to accumulation of fluid, derived either from the uterus, from the ovaries, or from the lining membrane. "The fallopian tube has been sometimes, indeed, the seat and source of a sanguineous exudation, without apparent rupture. This has been principally observed in the puerperal state, in abortion, or connected with metro-peritonitis. The following is a case in point:—A woman after a recent abortion at an early period, was affected with inflammation of the uterus and of the peritoneum, of which she died. The ovarian extremity of the left fallopian tube was of the size of a small hen's egg, adhering to the ovarium, which it almost surrounded; it was red, very vascular, and contained some fluid blood: the parietes of this sac were half a line in thickness; the left fallopian tube was obliterated at its pavilion, which was as large as the finger, without fimbriæ, and adhering to the ovarium by some cellular adhesions: some fluid blood was found within it; the remains of a small lacerated serous cyst were suspended from the ovarium on the same side."† "We meet with examples of the first occasionally, when the neck of the uterus is imperforate; the catamenial discharge accumulating, distends first the uterus, then the fallopian tubes, and ends by rupturing them. In the second case, a communication is opened between the adherent extremity and the dropsical cyst of the ovary. In the latter case, the appearance of the tube varies:‡ sometimes it is thickened, elongated, and flexuous, gradually enlarging as it approaches the ovarium, though still quite distinguishable. Sometimes it enlarges more rapidly, in the form of a cucurbite, of a pear, or of a sphere, and may then acquire enormous dimensions. De Haen speaks of a hypertrophied fallopian tube, which weighed alone seven pounds, and contained twenty-three pints of fluid:§ cases have been quoted, in which even a hundred and twelve pints have been found in these organs; but the fallopian tube, the ovarium,

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* Boivin and Dugès: Diseases of the Uterus, &c. p. 500.

† Ibid. p. 500.

‡ "The tubes are also, though much more rarely, the seat of dropsy. The signs of this disease are the same as in dropsy of the ovary, from which it is distinguishable during life. On examination after death, the tube which is the seat of the dropsy is found more or less dilated; it presents the appearance of a tortuous tumor, something resembling the large intestines. The cavity is filled with a serous fluid, slightly coagulable and of an albuminous character. This cavity is generally divided into cells by membranous septa."—*Nauche: Mal. prop. aux Femmes*, vol. i. p. 181.

§ Rat. Med. tom, iii. p. 213. See also Monro on Dropsies.

and the broad ligaments, were all blended in the cyst. The rationale of these accumulations of fluid, and of dropsy of the ovarium, is the same: their symptoms are also similar; they are sometimes equally relieved by puncture; sometimes this operation has been followed by fatal consequences, and sometimes it has been entirely useless, owing to the viscous state of the matter preventing its flow along the canula.* Dr. Hooper has given the name of 'hygroma' to this fluid collection, and he observes:† "I have never seen more than seven fluid ounces in one tube: from one to two ounces is the more usual quantity. When a hygromatous tumor is formed in these tubes, the fimbriæ are generally destroyed, and the abdominal openings obliterated. The sides of the tubes are distended into complete bags, which have a long, tortuous, or pyriform shape, being always much the largest at the loose extremity. The tube of both sides is mostly in the same state of disease, and there are generally traces of pre-existing inflammation, as thickened portions here and there, and many adventitious membranes and adhesions to the neighbouring parts."

In some cases, where the uterine extremity becomes pervious, the fluid is more or less completely discharged through the uterus and vagina. Frank‡ mentions a case in which a pint of fluid was discharged *per diem*. After the death of the patient, thirty-one pints of aqueous and gelatinous matter were found in the left fallopian tube. The cause of the disease was a fall in which the hypogastrium was hurt.

425. Dr. Tyler Smith has proposed an instrument for detecting and remedying obstructions of the fallopian tubes, whether the result of inspissated secretion or thickened lining membrane.§ The instrument consists of a hollow tube or catheter, in shape resembling Prof. Simpson's uterine sound, with the addition of a short lateral curve at the point, turning to the right or left, according as it is for the right or left fallopian tube. The catheter is to be passed through the cervix to the top of the uterine cavity, and then the orifice at its curved extremity will, Dr. Smith says, correspond as nearly as possible with the orifice of the fallopian tube. Having proceeded thus far, a very fine whalebone probe is to be passed through the catheter into the fallopian tube, the distance to be ascertained by marks upon the outer extremity of the probe. Dr. Smith says there is no difficulty in pass-

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* Boivin and Dugès: Diseases of the Uterus, p. 501.

Astruc speaks rather favorably of tapping the dropsical tube, and quotes a case of J. H. Bretchfelds, related by Bartolinus (Act. Med. Hafnien. p. 194), in which it was successfully performed.—*Diseases of Women*, vol. ii. p. 244.

† Morbid anat. of the Human Uterus, p. 19.

‡ De Cur Ret. lib. vi. part i. p. 310.

§ Lancet, May 19, and June 9, 1849.

ing the probe, although the introduction of the catheter is not always easy; and, after several trials, he has never seen any ill effects from the operation. I confess I should be unwilling, without much additional evidence, to recommend this operation; I do not think the uterus so insensible to mechanical irritation as some suppose; and I should fear that if the probe be weak it would be useless, and if strong there would be great danger of injury.

Obliteration of the tube in any part will prevent subsequent conception, rendering the woman sterile; and if the calibre of the tube be diminished or obliterated after conception, or if the action of the tube be imperfect, then the ovum may be arrested in its progress towards the uterus, and an extra-uterine (tubal) fœtation will result. Under these circumstances, the fœtus may increase in size for some time, until having stretched the parietes of the tube to their utmost extent, they give way, and the fœtus is precipitated into the abdomen. In most cases, this gives rise to fatal peritonitis; in a few others, the serous membrane accommodates itself to the presence of the fœtus, and the patient may carry it thus for many years. Astruc[*] recommends the operation of the Cæsarian section in such cases, if we are sure of their nature.

426. It is very rare indeed that *fibrous tumors* form in the substance of the fallopian tube: they are, however, sometimes met with. Dr. Baillie[†] remarks: "I have seen a hard, round tumor growing from the outer surface of one of the fallopian tubes. This, when cut into, exhibited precisely the same appearance of structure as the tubercle which grows from the surface of the uterus, consisting of a hard white substance, intersected by strong membraneous septa. This, however, I believe to be a very rare appearance of the disease." And Dr. Hooper[‡] observes: "A more common situation for this tumor is the cavity of the fallopian tube. It is occasionally seen, very small, deposited in the cellular tissue, under the peritoneum of the tubes; I once found it in the cavity or canal itself, about the size of an olive; the fimbriæ were destroyed, and the tube terminated in a '*cul de sac.*' Dr. J. Y. Myrtle discovered a large fibrous tumor in the left fallopian tube of a lady, which filled the pelvis completely, and by the obstruction it offered had given rise to enormous distension of the colon. It does not appear to have been detected during life.[§]

427. The fallopian tubes may be attacked by *malignant disease.*

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[*] Diseases of Women, vol. ii. p. 245.

[†] Morbid Anatomy, p. 360.

[‡] Morbid Anatomy of the Human Uterus, p. 12.

[§] Ed. Monthly Journal, May 1849, p. 772.

Capuron,* Nauche,† and others treat of cancer of this part; and Dr. Lee observes:‡ "The fallopian tubes are sometimes affected with cancerous or malignant disease. This may commence in the tubes themselves, or it may extend to them from the ovaria, or other parts of the uterine system."

If the disease have extended to, or originated in the womb, of course the *symptoms* arising from the affection of the fallopian tubes will be merged in those of the uterine disorder. If not, some light may be thrown upon the *diagnosis* by a careful vaginal examination.

428. *Displacements.* As we have seen already, the fallopian tubes are displaced whenever the position of the uterus is disturbed. In prolapsus uteri, they lie in the 'cul de sac' formed by the inverted vagina, along with the ovaries. In inversion of the womb, they are drawn into the newly formed cavity, lined by the peritoneum of the fundus uteri. When the ovary is much enlarged, if the fimbriated extremity of the tube be adherent to it, the situation of the tube itself will be altered. In those very rare affections, herniæ of the uterus and ovaries,§ the fallopian tubes of course participate in the displacement.

429. *Ruptures.* This accident may occur from over distension by the catamenia,‖ by serum, or by pus. It may occur independently both of these diseased states and pregnancy. There is a case on record of rupture of this organ, independently of pregnancy;¶ attributed to a violent effort, quickly followed by an effusion into the abdomen, and death. Or the rupture may be the immediate consequence of ulceration.

Rupture of the tube, in consequence of the development of the fœtus in its canal, has already been noticed. It generally takes place about the third or fourth month of pregnancy. When it occurs, "a violent pain is suddenly experienced by the woman in the region of the uterus; this is followed by faintness, coldness of extremities, and other symptoms of internal hemorrhage; and death usually takes place in a few hours. On opening the body, a quantity of blood is found in the sac of the peritoneum, and the tube which contained the ovum is found lacerated or laid open by inflammation and sloughing. When ruptured, it does not possess a power like th uterus, to close the exposed vessels after the separation of the placenta, and the blood is poured out from the laceration until the woma perishes."*

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* Mal. des Femmes, p. 164.

† Mal. propre aux Femmes, p. 623.

‡ Cyclopedia of Pract. Med. vol. iv. p. 379.

§ Nauche: Mal. propre aux Femmes, vol. i. pp. 123, 127. Boivin and Dugès: Diseases of the Uterus, &c. chap. 5. Ruysch; Obs. 16.

‖ De Haen: Rat. Med. tom. iii. p. 32.

¶ Nouvelle Biblioth. Med. 1823, tom. i. p. 263.

This accident is almost always fatal. If there be time for remedie of course the most active antiphlogistic treatment is the most appropriate; such, in fact, as would be prescribed for peritonitis unde ordinary circumstances.

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[*] Lee: Cyclop. of Pract. Med. vol. iv. p. 373. Edin. Med. an Surg. Journal, vol. xix. p. 652.

SECTION IV.—DISEASES OF THE OVARIES.

430. Notwithstanding the peculiarities of their structure, and the difference between them and the uterus, the ovaries seem to be obnoxious to the same attacks, and to undergo similar morbid changes.

They may suffer from inflammation, acute or chronic; and from its consequences, fluid or solid deposits: from malignant disease, from displacement, and from rupture.

It is true that the diseases of the ovary are less frequent than those of the uterus; and one reason for this is, that their physiological changes are of a character less likely to lead to disordered action: they are not exposed to irritation from acrid discharges; and far less to mechanical injury, especially to that which results from excessive sensuality.

It is not intended, therefore, to enter into minute detail upon the rarer forms of ovarian disease.

CHAPTER I.

OVARIAN IRRITATION.

431. The following description relates to an affection which, although very common, is but little noticed in books. This has probably arisen from its having been placed among the symptoms of other diseases, although it is quite distinguishable from them.

It resembles most closely the disease described by Dr. Tilt under the name of subacute ovaritis; but the cases I have seen have led me to differ from that intelligent writer, and to conclude that the affection to which I refer is not inflammatory. I have, therefore, preferred the term *Ovarian Irritation.*

I have met with it in women of all ages between the commencement and cessation of menstruation, so that I do not think age has much influence in the production of the disease; but I am quite certain that it is most frequent in women of a delicate, nervous temperament, though by no means confined to them.

The chief characteristic symptom is an uneasiness, amounting in the greater number of cases to pain, and in some cases to very severe pain, in one or both iliac or inguinal regions, but most frequently in the left, which Professor Simpson seems to think is owing to the propinquity of the left ovary to the rectum, and the exposure to any irritation thence arising. This pain may be a constant dull aching, or it may be acute and occurring in paroxysms; it is greatly aggravated by standing, and generally by walking: indeed, in the severer cases, I have known the patient quite unable to walk. There is generally some complaint of fulness about the iliac region, but upon careful examination I have rarely been able to satisfy myself that this was more than a sensation: I certainly never felt anything like a distinct tumor. There is, however, always considerable tenderness, which in some cases is extreme to the slightest touch. When the irritation is great, it may be extended to the bladder, giving rise to a desire to evacuate its contents frequently, and causing great pain in doing so. Hysterical paroxysms are by no means infrequent. In two of the most violent cases of hysteria that I have seen for some time, there was extreme tenderness of the region of the left ovary, and pressure there aggravated the hysterical paroxysms.

If we make a vaginal or rectal examination, we shall most frequently discover nothing unusual, neither heat nor tenderness nor swelling; in a few cases, however, I have found that moving the uterus laterally caused uneasiness in the side affected. When speaking of a rectal examination in subacute ovaritis, Dr. Tilt remarks, that the ovaries are more or less painful on pressure, and that they are from twice to four times their original size.* This I have not found in the affection now under consideration, and it constitutes one reason for my doubting that it is the same disease as that described by Dr. Tilt.

432. These are the principal local and direct symptoms I have observed; they vary much in degree, and are in some cases so intense as to resemble an attack of acute ovaritis. They differ also more or less according to the circumstances in which the attack occurs; and in order to elucidate this point, I shall briefly enumerate the circumstances.

1. In patients who suffer occasionally from amenorrhœa, it is not uncommon to find ovarian irritation at these periods, and not altogether confined to them. Whether the ovarian irritation be the cause of the suppression of the catamenia, or merely a symptom, is a question not easily decided. In many cases I think it is probably the primary affection, but in some others it appears to be the result of the amenorrhœa. The suffering is often considerable, and may be prolonged until

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* On Diseases of Menstruation, &c., p. 79.

the next catamenial evacuation: if that be full and free, the pain and tenderness generally disappear.

2. Upon the sudden suppression of menstruation, it is not unusual for the ovaries to be almost instantly affected, either by the form of disease I have described, or by an acute inflammatory attack, which is more rare.

3. In dysmenorrhœa there is more or less ovarian irritation. If we examine the patient minutely as to the seat of the pain during the period, we shall find it is principally in the region of one or both ovaries and often accompanied by tenderness on pressure. In the majority of these cases I am inclined to think that the ovaries are secondarily affected.

4. In menorrhagia, the ovaries may apparently preserve their integrity for a long time; but if the attacks be frequent, I have generally found that these organs, one or both, become affected, and that the irritation frequently continues long after the discharge has ceased.

5. I have repeatedly seen this ovarian irritation accompany congestion and erosion of the cervix uteri, but it most frequently comes on after the latter disease has persisted for some time, or after it is nearly or quite cured. The ovarian irritation, however, in these cases, very soon subsides.

6. I have already mentioned its occurrence in hysteria, both when the latter is evidently dependent upon catamenial disturbance, and when the periodical discharge is quite correct.

7. In some few cases I have recognised ovarian irritation in cases where the uterine and ovarian monthly functions were apparently accurately performed, but the patients were of a highly nervous temperament, in delicate health, and without offspring.

These various classes include, I think, all or nearly all the examples of the disease which have come under my observation. In many cases it requires care to separate the ovarian symptoms from those caused by the concurrent disease, but in other instances this distinction is quite obvious. When uncomplicated, the disorder rarely gives rise to any general or constitutional symptoms. Many of the subjects of it are delicate and weak, and of course this attack keeps them so; but ordinarily the pulse is not quickened by it, and there is neither heat of skin or thirst. The appetite is seldom good, but it is not worse than usual, and the bowels are generally irregular. I have examined the urinary secretion, and have repeatedly found it scanty, acid, and occasionally mixed with mucus.

433. As to the *pathology* of this affection there are several points of considerable interest. I think we can entertain no doubt that the ovaries, one or both, are the seat of the irritation; the peculiar and fixed locality of the pain, and its frequent connexion with the ovarian function of menstruation, all confirm this view. But the next question is more difficult to decide positively, viz., is the disorder an inflamma-

tory affection of the ovaries, either acute or subacute? The disease described by Dr. Tilt certainly presents characteristics of inflammation, which I have never observed in the present disorder. The absence of tumefaction generally, and of a distinct tumor always, the negative results of an examination *per vaginam* and *per rectum*, the intermitting and paroxysmal character of the attack, the absence of all the ordinary results of inflammation (as abscess, accumulation of fluid, &c.), even in the severer cases, and the success of a certain line of treatment, are all, to my mind, very strong arguments for the non-inflammatory nature of the disease. In most of these particulars, it differs from the subacute ovaritis of Dr. Tilt. I have certainly seen some cases in which the point seemed doubtful, and it is probable that the one form of disease may under certain circumstances, merge in the other; but I cannot resist the conviction, that the affection I have described is essentially neuralgic, and not inflammatory.

Again it may be asked, is this ovarian irritation the cause of the menstrual disorder or its effect, or merely a concomitant symptom? No one acquainted with the present state of ovarian physiology could deny that the integrity of the menstrual function must be largely influenced by the condition of the ovaries. If this ovarian irritation always preceded the catamenial period, I should be inclined to attribute to it the subsequent distress; and in many cases it appeared to me that I could so trace it as the chief cause. But, in some cases, the ovarian irritation distinctly followed the menstrual disturbance or came on towards the termination of the monthly period; and lastly, in other cases, the irritation existed with no catamenial derangement at all. Without doubting, therefore, that ovarian irritation may disturb the menstrual functions in various ways, I cannot agree with those who think that it invariably does so, nor yet with those who are inclined to attribute all menstrual disorders to deviations from the normal condition of the ovaries.

434. *Causes.*—I need not occupy time by enumerating many *causes* for its production; all those which act upon either the uterus or ovary and disturb their functions, may be considered as causes of ovarian irritation, and among these the most frequent, probably, is cold.

I believe that, in many cases, excess in sexual intercourse has given rise to it; and I am also inclined to think, that in a few cases I have known it originate from the entire deprivation of that stimulus. For some valuable remarks upon this subject I shall refer my readers to Dr. Tilt's excellent work:* all that he says upon this point is, I think, equally applicable to ovaritis and ovarian irritation.

435. *Diagnosis.*—The circumstances under which the attack occurs, I mean its relation to the menstrual functions; the symptoms, and the peculiar locality of the pain, render the *diagnosis* tolerably easy in

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* On Diseases of Menstruation, &c., p. 53.

most cases. It may, certainly, be mistaken for intestinal irritation; but, in general, there are no other symptoms than the pain to justify such an opinion. The bowels, even if irregular, are free from irritability.

It will, however, require a little more trouble to render it certain that there is not acute ovaritis, which the tenderness might lead us to suspect. But this tenderness is *generally much greater than that resulting from inflammation;* it is a kind of a nervous tenderness which shrinks from the weight of a finger as much as from severe pressure. Moreover, in acute ovaritis, the organ is always swollen and enlarged, and it can generally be felt distinctly to be so by an internal examination.

In phlegmonous inflammation of the uterine appendages, or pelvic abscess, as it has been termed, the hard and painful tumefaction is quite plain at the brim of the pelvis, and therefore, it cannot easily be confounded with the present disorder.

436. *Treatment.*—I shall not enter at any length into details of the *treatment* of this disease, inasmuch as I have only my own experience to which I can refer. The choice of remedies will be governed, to a certain extent, by the health, strength, and state of constitution of our patient. With strong, healthy women I have tried leeches to the ovarian region, with some benefit but not complete success, nor in all cases; from six to twelve may be applied at once, and repeated, if necessary, after an interval. Poultices after the leeching are of use; and indeed, when no leeches have been applied, I have seen much comfort and relief derived from repeated poulticing. With delicate women, and they are frequently the subjects of this disease, bleeding in any form has appeared to me rather injurious than beneficial.

I have tried the repeated application of small blisters with better results than leeching. The irritation of the surface certainly relieves the pain in many cases, and, if continued, may finally cure it; but I must confess I have seen it fail repeatedly. Anodyne liniments and anodyne plasters occasionally seem to afford relief, but they are often of little or no use; I tried anodyne enemata several times with partial success. In two or three cases I used the tincture of aconite, applied liberally to the iliac region, but I confess the result disappointed the expectations I had formed.

Having failed in affording any relief in two or three obstinate cases, I determined to try the effect of opium applied to the upper part of the vaginal surface. I accordingly ordered some balls or pessaries to be made, somewhat in the mode of Dr. Simpson's medicated pessaries, each ball to contain two grains of opium, half a drachm of white wax, and a drachm and a half of lard. The whole, when mixed together, formed a ball about the size of a large marble, and I placed it at the upper end of the vagina by means of the speculum, leaving the patient in bed for the rest of the day. The success was quite beyond my expectation; the relief was very speedy, and in most instances complete. Even when the pain did return after a few days, a second application removed it. The tenderness disappeared with the pain, and no unpleasant consequences have resulted in any instance. I have now tried this remedy in a considerable number of cases, and with almost invariable success. I have rarely found it necessary to bleed or blister since I first adopted this plan; and I recommend it, with considerable confidence, to the profession. I may add that I have tried these pessaries in cases of dysmenorrhœa, applying one the day before the catamenia were expected, with decided benefit.

It is hardly necessary to say that, in this disease, the bowels should be regulated, and gently freed by medicine when necessary. If the appetite is bad, vegetable bitters may be given, and I have generally found it useful to combine some alkali with them.

CHAPTER II.

INFLAMMATION OF THE OVARIES.

437. Inflammation of one or both ovaries does occur sometimes as an idiopathic lesion, and unconnected with pregnancy, but it is very rare. It is most generally complicated with the peritoneal or uterine inflammation succeeding to abortion or delivery. "Inflammation of these organs has also been known to exist, independently of any similar condition of the uterus itself. M. Portal asserts that he had often met with patients of this class, who had experienced all the pathognomonic symptoms of inflammation of the uterus, but who after the lapse of some time, and subsequently to their apparent recovery, became the subjects of fulness, and in fact of very great intumescence in one or both iliac regions, for which they took various remedies without advantage. On inspecting the bodies of such persons after death, he found the uterus perfectly healthy, whilst the ovary of one side, and in other cases of both sides, together with the ligament or ligaments, round and broad, of either or both sides, presented the appearance of great engorgement."*

Generally speaking, the entire substance of the ovary is involved in the morbid action; but in some few cases it has been supposed to have affected only the Graafian vesicles. The phenomena which result in this latter case are not distinguishable during the life of the patient, and consequently this partial affection may be passed over without more lengthened detail. On this subject Dr. Seymour remarks: "Whether the Graafian vesicles are ever affected by inflammation, except when in common with the substance of the ovarium, it would be impossible to determine, except by a long-continued and very accurate examination after death. We meet, indeed, in authors, with accounts of the ovarium which has been inflamed, having purulent matter of a healthy character contained in cysts; but no allusion is made, to whether this arises from inflammation or suppuration of the vesicles, or is a circumscribed abscess in the cellular structure. The coats of the vesicle, however, in advanced life, undergo remarkable thickening; instead of containing fluid, are filled with a thick matter, of a red color, from the presence of vessels, sometimes nearly solid, at others of a thinner consistence. This change exhibits, on a small scale, some of those hard tumors which are sometimes found in the parietes of an ovarian cyst. Is it not possible that these may be some of the superficial vesicles, having undergone the change alluded to, and magnified by disease?" "The fluid which is contained in the Graafian vessels is liable to disease; it is often red, and even black, from the admixture of blood; and it appears to me that it may become altered from imperfect fecundation." Dr. Seymour quotes a case in support of this latter opinion.*

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* Davis: Obstetric Medicine, vol. ii. p. 762.

It has been stated by Nauche, that young women of a sanguine temperament and vivid passions are the most obnoxious to this affection. I should doubt the general applicability of this remark, at least to such cases as occur during an epidemic of puerperal fever. There are two epochs at which it frequently occurs, viz. just previous to, during, and immediately after the appearance of the menses, and shortly after abortion and labor.

There is an *acute* and *chronic* form of the disease. The latter is always a sequence of the former, and differs from it chiefly in the minor intensity of the symptoms.

438. *Causes.*—When the disease occurs in puerperal women, it is often merely an extension of inflammation from the uterus or broad ligaments. Certain epidemics of puerperal fever also appear to be characterised by the prevalence of this lesion. "The frequency with which this affection is complicated with metro-peritonitis in the puerperal state, varies considerably in the different epidemics. Of 686 cases of metro-peritonitis, which we witnessed in two years (1819–20), 37 presented inflammation of the ovarium. There were, doubtless, many more of the same kind, and several escaped our detection, owing to the obscurity of the diagnosis; for, of this number, 35 were ascertained after death, and only two during life. In such cases, inflammation of the ovarium can only be suspected from the existence of pain extending towards the iliac fossæ, to the loins and femora;

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* Illustration of Diseases of the Ovaria, p. 41, et seq.

and from tenderness felt near these fossæ; and, perhaps, from rather more tumefaction and hardness in the iliac regions than is found in simple metro-peritonitis."* It occasionally follows a difficult or tedious labor.

It may arise, however, altogether independent of gestation; and it has been referred, in some cases, to a blow received in the iliac region, to cold, or to irritation from some foreign body (as hair, teeth, &c.) in the ovary itself. According to Dr. Martin Solon, it may follow suddenly suppressed menstruation.†

439. *Symptoms.*—1. *Of acute ovaritis.* When complicated with inflammation of the uterus or its appendages, the symptoms thence arising will in some degree mask those dependant on the ovarian affection. But in all cases, the patient suffers from deep seated, severe pain in the pelvic cavity; and when the disease is limited to the organ itself, the situation of this pain, which is accompanied with a sensation of burning, is very well marked. It is not constant if the patient continue quiet; but if she rise, it is greatly aggravated. If the inflammation spread to the peritoneum, the pain changes its character, and becomes very acute. An aching sensation extends to the groins and thighs, with great weariness. The evacuation of urine and fæces is performed with pain and difficulty. As long as the inflammation is confined to the ovarium itself, the seat of the disease can only be shown by the pain, since there is no functional disturbance to mark its presence. Immediately over the symphysis pubis of the affected side (both ovaries are seldom inflamed at once), between the groin and the uterus, the abdomen is painful and somewhat tense; at times it is distinctly swollen, and hotter than natural. The pain is seldom violent, rather dull, but becomes sharper and darting as soon as the peritoneum is involved: the part is painful on pressure, and on suddenly assuming the erect posture; and as long as the inflammation does not spread, remains confined to the affected spot. Usually, however, the inflammatory process rapidly extends, at an early period, to the peritoneum; especially when under circumstances which predispose the membrane to inflammation, viz. the puerperal state; and besides the darting pain above mentioned, produces affections either of the bladder or rectum. In the former case, patients complain of frequent desire to pass water, and scalding, even to a painful degree, when evacuating the bladder, so as to be easily mistaken for inflammation of its mucous lining; the neighbourhood of the bladder is felt tense, and is very tender on pressure. The urine also is mostly high-colored, and is passed in the usual quantity, in spite of frequent interruptions. The function of the rectum is but little impeded. On the other hand, when the irritation has spread to the posterior

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* Boivin and Dugès: Diseases of the Uterus, &c. p. 488.

† Nouv. Dict. de Med. et de Chir. prat.; art. Ovarite.

portion of the peritoneum, the characters of the disease are very different: the bladder now is less affected than the rectum. In this case, the patient has a sensation of painful pressure in the cavity of the pelvis, amounting to bearing down; the hypogastric region is not so tense or hot, and is less sensitive to external pressure. Fruitless forcing to evacuate the bowels arises, frequently amounting to tenesmus.

If we examine the lower part of the abdomen on either side, or on both (for the attack is not always limited to one ovary), we may often perceive a slight puffiness or swelling, and upon pressure, this part will be found very painful. This tenderness will spread over the whole abdomen, if the peritoneum be involved. There is always more or less fever present, the skin is hot, the pulse quick and concentrated; the stomach becomes disordered; nausea and vomiting occur.

440. An examination *per vaginam* is not satisfactory. There is sometimes a slight increase of heat, but no sign which could indicate the true nature of the affection. As far as I know, we are indebted to Dr. Lòwenhardt for first pointing out to the profession the importance and accuracy of the information obtained 'per rectum.'* Without the aid of examination 'per rectum,' it would be exceedingly difficult to form a certain diagnosis: the finger, 'per anum,' easily reaches to the side of the uterus, *where the swollen and generally painful ovary may be distinctly felt.* Examination 'per vaginam' leads to little or no certain results. We have, it is true, a number of indistinctly marked symptoms, which show that inflammatory action is going on. The vagina is warmer than natural: the os and cervix uteri are neither painful or swollen at the beginning of the disease. In some cases there is a slight degree of tumefaction of this part, such as is observed shortly after conception. The finger easily reaches to the natural situation of the ovary at the side of the uterus, and is able to appreciate the increase of bulk, and to ascertain any tenderness on pressure.

Organic disease of the ovaries must always, more or less, interfere with the uterine functions. The lochia will be checked, and the menses suppressed by it. If the disease involve the substance of both ovaries, the power of conception (at least, *pro tempore*) will be destroyed, and sterility will be the result.

An opinion was broached some time ago, by Professor Carus of Dresden, and adopted by many continental writers, as to the connexion of nymphomania with ovaritis. That the two affections may co-exist cannot be denied; but that the nymphomania is to be always referred to an inflamed condition of these organs, or that ovaritis must necessarily be attended by nymphomania, is contrary to the evidence of experience. On this subject the reviewer of Löwenhardt remarks: "We have never yet seen a case (of nymphomania) arising from this cause; whereas we have frequently witnessed cases of considerable venereal excitement arising from an inflamed condition of the vagina and external parts. On the other hand, inflammation of the ovary decidedly occurs, not only without the slightest approach to nymphomania, but is frequently attended by a directly opposite state of feeling on the part of the patient."

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* Diagnostisch-praktische Abhandlungen aus dem Gebiete de Medicin und Chirurgie durch Krankheitsfälle erlaütert vom Dr. Lòwenhardt, part i. p. 306. British and Foreign Medical Review, vol. ii. p. 527.

441. The result of *post mortem* examinations vary according to the intensity of the disease. "The disease may prove fatal on the fourth or fifth day; by resolution from the 9th to the 11th; or by suppuration from the 12th to the 14th. In the latter case, the pus is enclosed in a cyst, which often projects so that it can be opened externally. Occasionally the cyst contracts adhesions to a portion of the intestinal canal, and opening through the parietes, the pus is discharged by stool. The cyst may also open into the cavity of the abdomen, and occasion immediate death. Sometimes the inflammation terminates in induration."* "On opening the bodies of females who have fallen victims to this disease, the organs which are the seat of disease are found increased in volume, of a reddish brown; their texture similar in color, and softened, with here and there small collections of puriform matter, which is occasionally found even in the Graafian vesicles. The observations of M. Dance (on Phlebitis, in Archiv. Gen. for December, 1828,) have demonstrated this. M. Portal and others cite examples of cysts of a considerable size, filled with purulent matter, developed in the ovaries. Most generally they are covered by false membranes, and serious morbid changes are observable in the neighbouring organs."† "In the first degree, the ovary presents hardly any increase in volume, especially in length, and is rather softer than in the natural state; its substance is firm, red, and injected; numerous capillaries traverse it in every direction; the vesicles are larger than in their natural condition. In the second degree, there is enlargement to twice or four times its usual dimensions, a volume exceeding that of a hen's egg; a rounded or oval, flattened form; softness, friability; serous infiltration of a yellowish color; or a livid color, with the same infiltration; sometimes with slight effusions of blood in numerous points. In the third degree, there is infiltration of fluid or concrete pus, deposited in small quantities in this softened mass, which is then pale and yellowish. In the fourth degree, there is softening, with liquidity at the centre; sometimes even a solution of a part of the entire ovarium, the shreds

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* Nauche: Mal. prop. aux Femmes, vol. i. p. 372.

† M. Solon: Nouveau Dict. de Med. et Chirurg. Prat.; art. Ovarite.

of which are carried along with the pus, and mingled in the peritoneal effusion."*

442. 2. *Chronic inflammation* of the ovaria is always a sequence of the acute form, and presents a similar but more obscure series of symptoms.† There is a deep-seated, dull pain in the region of the ovaries, occasionally aggravated by moving about, and by the evacuation of urine and fæces. There is occasionally a slight diarrhœa, with sweating.

The constitutional symptoms are generally absent, but the organic changes are equally ascertainable by an examination 'per rectum.' The catamenia are suppressed. Both species terminate alike.

443. *Diagnosis.*—If we depend upon the symptoms alone, the diagnosis will often be very doubtful and obscure. Of thirty-seven fatal cases, Madame Boivin only detected two during the life of the patients. This is especially the case in puerperal fever, where all the symptoms are sure to be referred to the uterus or peritoneum.

An examination 'per rectum' is the safest ground of distinction between *ovaritis* and *hysteritis*, *cystitis* or *peritonitis*, because in no other affection is the ovary necessarily enlarged. There is still a difficulty, even if we have proceeded so far satisfactorily; for inflammation and abscess of the softer parts, lining the pelvis, will be in some danger of being mistaken for an ovarian affection, or *vice versa.*

Perhaps the union of a careful vaginal and rectal examination would be the surest ground for diagnosis; and in some cases (puerperal fever, for instance), the history of the patient will throw light on the disease.

444. *Prognosis.*—From the obscurity of the symptoms, and the anatomical relations of these organs, inflammation and its results are so serious, that the prognosis is always grave. If the symptoms be detected early, the prospects of the patient will be much more promising.

445. *Terminations.*—1. It has already been stated, that the *acute* form of ovaritis may issue in the *chronic*. Both of these may terminate in *resolution*, which will be evidenced by the gradual subsidence of the local and general symptoms, by the eruption of the menses, or by the return or increase of the lochia, if the patient be in childbed.

2. The inflammation may spread to the *broad ligaments* and the *peritoneum* generally. This is not unfrequent, and is marked by the accession of a more acute and constant pain, and of more general and intense abdominal tenderness. It is scarcely necessary to mention, that this complication compromises the safety of the patient.

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* Boivin and Dugès: Diseases of the Uterus &c. p. 489.

† Siebold's Journal, vol. xiv. p. 404.

plete. Even when the pain did return after a few days, a second application removed it. The tenderness disappeared with the pain, and no unpleasant consequences have resulted in any instance. I have now tried this remedy in a considerable number of cases, and with almost invariable success. I have rarely found it necessary to bleed or blister since I first adopted this plan; and I recommend it, with considerable confidence, to the profession. I may add that I have tried these pessaries in cases of dysmenorrhœa, applying one the day before the catamenia were expected, with decided benefit.

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CHAPTER II.

INFLAMMATION OF THE OVARIES.

437. Inflammation of one or both ovaries does occur sometimes as an idiopathic lesion, and unconnected with pregnancy, but it is very rare. It is most generally complicated with the peritoneal or uterine inflammation succeeding to abortion or delivery. "Inflammation of these organs has also been known to exist, independently of any similar condition of the uterus itself. M. Portal asserts that he had often met with patients of this class, who had experienced all the pathognomonic symptoms of inflammation of the uterus, but who after the lapse of some time, and subsequently to their apparent recovery, became the subjects of fulness, and in fact of very great intumescence in one or both iliac regions, for which they took various remedies without advantage. On inspecting the bodies of such persons after death, he found the uterus perfectly healthy, whilst the ovary of one side, and in other cases of both sides, together with the ligament or ligaments, round and broad, of either or both sides, presented the appearance of great engorgement."*

Generally speaking, the entire substance of the ovary is involved in the morbid action; but in some few cases it has been supposed to have affected only the Graafian vesicles. The phenomena which result in this latter case are not distinguishable during the life of the patient, and consequently this partial affection may be passed over without more lengthened detail. On this subject Dr. Seymour remarks: "Whether the Graafian vesicles are ever affected by inflammation, except when in common with the substance of the ovarium, it would be impossible to determine, except by a long-continued and very accurate examination after death. We meet, indeed, in authors, with accounts of the ovarium which has been inflamed, having purulent matter of a healthy character contained in cysts; but no allusion is made, to whether this arises from inflammation or suppuration of the vesicles, or is a circumscribed abscess in the cellular structure. The coats of the vesicle, however, in advanced life, undergo remarkable thickening; instead of containing fluid, are filled with a thick matter, of a red color, from the presence of vessels, sometimes nearly solid, at others of a thinner consistence. This change exhibits, on a small scale, some of those hard tumors which are sometimes found in the parietes of an ovarian cyst. Is it not possible that these may be some of the superficial vesicles, having undergone the change alluded to, and magnified by disease?" "The fluid which is contained in the Graafian vessels is liable to disease; it is often red, and even black, from the admixture of blood; and it appears to me that it may become altered from imperfect fecundation." Dr. Seymour quotes a case in support of this latter opinion.*

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* Davis: Obstetric Medicine, vol. ii. p. 762.

It has been stated by Nauche, that young women of a sanguine temperament and vivid passions are the most obnoxious to this affection. I should doubt the general applicability of this remark, at least to such cases as occur during an epidemic of puerperal fever. There are two epochs at which it frequently occurs, viz. just previous to, during, and immediately after the appearance of the menses, and shortly after abortion and labor.

There is an *acute* and *chronic* form of the disease. The latter is always a sequence of the former, and differs from it chiefly in the minor intensity of the symptoms.

438. *Causes.*—When the disease occurs in puerperal women, it is often merely an extension of inflammation from the uterus or broad ligaments. Certain epidemics of puerperal fever also appear to be characterised by the prevalence of this lesion. "The frequency with which this affection is complicated with metro-peritonitis in the puerperal state, varies considerably in the different epidemics. Of 686 cases of metro-peritonitis, which we witnessed in two years (1819–20), 37 presented inflammation of the ovarium. There were, doubtless, many more of the same kind, and several escaped our detection, owing to the obscurity of the diagnosis; for, of this number, 35 were ascertained after death, and only two during life. In such cases, inflammation of the ovarium can only be suspected from the existence of pain extending towards the iliac fossæ, to the loins and femora;

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* Illustration of Diseases of the Ovaria, p. 41, et seq.

and from tenderness felt near these fossæ; and, perhaps, from rather more tumefaction and hardness in the iliac regions than is found in simple metro-peritonitis."* It occasionally follows a difficult or tedious labor.

It may arise, however, altogether independent of gestation; and it has been referred, in some cases, to a blow received in the iliac region, to cold, or to irritation from some foreign body (as hair, teeth, &c.) in the ovary itself. According to Dr. Martin Solon, it may follow suddenly suppressed menstruation.†

439. *Symptoms.*—1. *Of acute ovaritis.* When complicated with inflammation of the uterus or its appendages, the symptoms thence arising will in some degree mask those dependant on the ovarian affection. But in all cases, the patient suffers from deep seated, severe pain in the pelvic cavity; and when the disease is limited to the organ itself, the situation of this pain, which is accompanied with a sensation of burning, is very well marked. It is not constant if the patient continue quiet; but if she rise, it is greatly aggravated. If the inflammation spread to the peritoneum, the pain changes its character, and becomes very acute. An aching sensation extends to the groins and thighs, with great weariness. The evacuation of urine and fæces is performed with pain and difficulty. As long as the inflammation is confined to the ovarium itself, the seat of the disease can only be shown by the pain, since there is no functional disturbance to mark its presence. Immediately over the symphysis pubis of the affected side (both ovaries are seldom inflamed at once), between the groin and the uterus, the abdomen is painful and somewhat tense; at times it is distinctly swollen, and hotter than natural. The pain is seldom violent, rather dull, but becomes sharper and darting as soon as the peritoneum is involved: the part is painful on pressure, and on suddenly assuming the erect posture; and as long as the inflammation does not spread, remains confined to the affected spot. Usually, however, the inflammatory process rapidly extends, at an early period, to the peritoneum; especially when under circumstances which predispose the membrane to inflammation, viz. the puerperal state; and besides the darting pain above mentioned, produces affections either of the bladder or rectum. In the former case, patients complain of frequent desire to pass water, and scalding, even to a painful degree, when evacuating the bladder, so as to be easily mistaken for inflammation of its mucous lining; the neighbourhood of the bladder is felt tense, and is very tender on pressure. The urine also is mostly high-colored, and is passed in the usual quantity, in spite of frequent interruptions. The function of the rectum is but little impeded. On the other hand, when the irritation has spread to the posterior

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* Boivin and Dugès: Diseases of the Uterus, &c. p. 488.

† Nouv. Dict. de Méd. et de Chir. prat.; art. Ovarite.

portion of the peritoneum, the characters of the disease are very different: the bladder now is less affected than the rectum. In this case, the patient has a sensation of painful pressure in the cavity of the pelvis, amounting to bearing down; the hypogastric region is not so tense or hot, and is less sensitive to external pressure. Fruitless forcing to evacuate the bowels arises, frequently amounting to tenesmus.

If we examine the lower part of the abdomen on either side, or on both (for the attack is not always limited to one ovary), we may often perceive a slight puffiness or swelling, and upon pressure, this part will be found very painful. This tenderness will spread over the whole abdomen, if the peritoneum be involved. There is always more or less fever present, the skin is hot, the pulse quick and concentrated; the stomach becomes disordered; nausea and vomiting occur.

440. An examination *per vaginam* is not satisfactory. There is sometimes a slight increase of heat, but no sign which could indicate the true nature of the affection. As far as I know, we are indebted to Dr. Löwenhardt for first pointing out to the profession the importance and accuracy of the information obtained 'per rectum.'* Without the aid of examination 'per rectum,' it would be exceedingly difficult to form a certain diagnosis: the finger, 'per anum,' easily reaches to the side of the uterus, *where the swollen and generally painful ovary may be distinctly felt.* Examination 'per vaginam' leads to little or no certain results. We have, it is true, a number of indistinctly marked symptoms, which show that inflammatory action is going on. The vagina is warmer than natural; the os and cervix uteri are neither painful or swollen at the beginning of the disease. In some cases there is a slight degree of tumefaction of this part, such as is observed shortly after conception. The finger easily reaches to the natural situation of the ovary at the side of the uterus, and is able to appreciate the increase of bulk, and to ascertain any tenderness on pressure.

Organic disease of the ovaries must always, more or less, interfere with the uterine functions. The lochia will be checked, and the menses suppressed by it. If the disease involve the substance of both ovaries, the power of conception (at least, *pro tempore*) will be destroyed, and sterility will be the result.

An opinion was broached some time ago, by Professor Carus of Dresden, and adopted by many continental writers, as to the connexion of nymphomania with ovaritis. That the two affections may co-exist cannot be denied; but that the nymphomania is to be always referred to an inflamed condition of these organs, or that ovaritis must necessarily be attended by nymphomania, is contrary to the evidence of experience. On this subject the reviewer of Löwenhardt remarks: "We have never yet seen a case (of nymphomania) arising from this cause; whereas we have frequently witnessed cases of considerable venereal excitement arising from an inflamed condition of the vagina and external parts. On the other hand, inflammation of the ovary decidedly occurs, not only without the slightest approach to nymphomania, but is frequently attended by a directly opposite state of feeling on the part of the patient."

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* Diagnostisch-praktische Abhandlungen aus dem Gebiete de Medicin und Chirurgie durch Krankheitsfälle erlaütert vom Dr. Löwenhardt, part i. p. 306. British and Foreign Medical Review, vol. ii. p. 527.

441. The result of *post mortem* examinations vary according to the intensity of the disease. "The disease may prove fatal on the fourth or fifth day; by resolution from the 9th to the 11th; or by suppuration from the 12th to the 14th. In the latter case, the pus is enclosed in a cyst, which often projects so that it can be opened externally. Occasionally the cyst contracts adhesions to a portion of the intestinal canal, and opening through the parietes, the pus is discharged by stool. The cyst may also open into the cavity of the abdomen, and occasion immediate death. Sometimes the inflammation terminates in induration."* "On opening the bodies of females who have fallen victims to this disease, the organs which are the seat of disease are found increased in volume, of a reddish brown; their texture similar in color, and softened, with here and there small collections of puriform matter, which is occasionally found even in the Graafian vesicles. The observations of M. Dance (on Phlebitis, in Archiv. Gen. for December, 1828,) have demonstrated this. M. Portal and others cite examples of cysts of a considerable size, filled with purulent matter, developed in the ovaries. Most generally they are covered by false membranes, and serious morbid changes are observable in the neighbouring organs."† "In the first degree, the ovary presents hardly any increase in volume, especially in length, and is rather softer than in the natural state; its substance is firm, red, and injected; numerous capillaries traverse it in every direction; the vesicles are larger than in their natural condition. In the second degree, there is enlargement to twice or four times its usual dimensions, a volume exceeding that of a hen's egg; a rounded or oval, flattened form; softness, friability; serous infiltration of a yellowish color; or a livid color, with the same infiltration; sometimes with slight effusions of blood in numerous points. In the third degree, there is infiltration of fluid or concrete pus, deposited in small quantities in this softened mass, which is then pale and yellowish. In the fourth degree, there is softening, with liquidity at the centre; sometimes even a solution of a part of the entire ovarium, the shreds

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* Nauche: Mal. prop. aux Femmes, vol. i. p. 372.

† M. Solon: Nouveau Dict. de Med. et Chirurg. Prat.; art. Ovarite.

of which are carried along with the pus, and mingled in the peritoneal effusion."*

442. 2. *Chronic inflammation* of the ovaria is always a sequence of the acute form, and presents a similar but more obscure series of symptoms.† There is a deep-seated, dull pain in the region of the ovaries, occasionally aggravated by moving about, and by the evacuation of urine and fæces. There is occasionally a slight diarrhœa, with sweating.

The constitutional symptoms are generally absent, but the organic changes are equally ascertainable by an examination 'per rectum.' The catamenia are suppressed. Both species terminate alike.

443. *Diagnosis.*—If we depend upon the symptoms alone, the diagnosis will often be very doubtful and obscure. Of thirty-seven fatal cases, Madame Boivin only detected two during the life of the patients. This is especially the case in puerperal fever, where all the symptoms are sure to be referred to the uterus or peritoneum.

An examination 'per rectum' is the safest ground of distinction between *ovaritis* and *hysteritis*, *cystitis* or *peritonitis*, because in no other affection is the ovary necessarily enlarged. There is still a difficulty, even if we have proceeded so far satisfactorily; for inflammation and abscess of the softer parts, lining the pelvis, will be in some danger of being mistaken for an ovarian affection, or *vice versa*.

Perhaps the union of a careful vaginal and rectal examination would be the surest ground for diagnosis; and in some cases (puerperal fever, for instance), the history of the patient will throw light on the disease.

444. *Prognosis.*—From the obscurity of the symptoms, and the anatomical relations of these organs, inflammation and its results are so serious, that the prognosis is always grave. If the symptoms be detected early, the prospects of the patient will be much more promising.

445. *Terminations.*—1. It has already been stated, that the *acute* form of ovaritis may issue in the *chronic*. Both of these may terminate in *resolution*, which will be evidenced by the gradual subsidence of the local and general symptoms, by the eruption of the menses, or by the return or increase of the lochia, if the patient be in childbed.

2. The inflammation may spread to the *broad ligaments* and the *peritoneum* generally. This is not unfrequent, and is marked by the accession of a more acute and constant pain, and of more general and intense abdominal tenderness. It is scarcely necessary to mention, that this complication compromises the safety of the patient.

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* Boivin and Dugès: Diseases of the Uterus &c. p. 489.

† Siebold's Journal, vol. xiv. p. 404.

3. Chronic inflammation may give rise to a degree of *swelling* and *induration*, which may persist, without much inconvenience, for a considerable time. "Chronic inflammation of the substance of the ovarium terminates likewise, as in other viscera of the body, by thickening and enlargement of the part. Such cases, after the commencement of the disease, will often remain stationary, and without any inconvenience, for many years." Dr. Seymour relates an example of this kind.*

4. In other cases, and especially after an acute attack, the substance of the ovary becomes *softened*, and reduced to the consistence of pulp. "Softening also takes place as the result of acute inflammation of these parts. A case recently occurred under my observation, where death, from inflammation of the womb, occurred about three days after delivery. The whole of the cellular membrane under the peritoneal covering of the uterus, and under that lining the pelvis, was in a state of diffuse suppuration; and the absorbent vessels, loaded with pus, could be traced nearly as high as the diaphragm. The ovaria were in a state of extreme softness, presenting the appearance of a vascular pulp, but no purulent matter was visible."† This is a very serious termination, as regards the functional integrity of the organ.

5. The *formation of matter* is a frequent termination of both acute and chronic ovaritis.‡ After the acute form, the pus is generally more diffused throughout the substance.§ "Abscess is sometimes, indeed, only the result of inflammation induced in a steatomatous cyst, as in dropsy of the ovarium. There are cases in which these two diseases constitute but one mixed affection, whatever may have been its original character, in consequence of the inflamed dropsical cyst being thickened, and its contents being almost entirely changed into pus; or from a real abscess having gradually increased, and transformed the ovarium into a cyst."‖ "The ovaria, like the substance of the uterus, seldom furnish any trace of inflammation having existed in their substance, unless dropsy and some other organic diseases be so considered. I have met with only two instances of abscess: the one was the size of a child's head at birth; the other not larger than an orange. There was in these nothing different from common abscess. The whole of the internal substance of the ovaries was gone, and the walls were formed of a thick and rather ligamentous cyst, covered by the peritoneum."† "One of the largest abscesses on record is that which M.

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* Seymour on Diseases of the Ovaries, p. 40.

† Ibid. p. 38.

‡ Ed. Med. and Surg. Journ. vol. xvi. p. 367.

§ Cruveilhier: Anat. Path. livr. 13.

‖ Boivin and Dugès: Diseases of the Uterus, &c. p. 491.

† Hooper's Morbid Anatomy of the Human Uterus, p. 2. Cooke's case, Med. Gazette, Jan. 17, 1840.

Andral has quoted from the American Journals: the ovarium contained twenty pints of pus. Portal speaks of suppurated ovaria as large as an infant's head. There is a figure in our atlas, pl. 34, G. of an encysted abscess, which appears to have been secondary to a kind of dropsy of the ovarium. The same may undoubtedly be said of the case recorded by Vater, in which the ovarium was as large as the human head, and contained pus distributed into several capsules. We ought also to refer to suppurated dropsies, those accumulations of twenty, thirty-six, and thirty-nine pints, quoted by Logger, pp. 11 and 12."*

446. The formation of matter will be indicated by rigors, softness of the pulse, and mitigation of the general symptoms, with an increased sense of weight and throbbing locally. The *symptoms* in a great degree resemble those of dropsy of the ovarium, but "in dropsy there is more evident and uniform fluctuation, more considerable volume, higher ascent into the abdomen, pain and tenderness only at a late period: in inflammation of the ovarium there is partial fluctuation, hardness in several parts, pain and tenderness at the first moments of turgidity, seated in the pelvis or at its circumference. These constitute almost all their distinctive characters."† The abscess may burst into the peritoneum, and give rise to fatal peritonitis; or if not directly fatal, the inflammation may occasion adhesion between the ovary and some part of the serous membrane, which will prohibit the further escape of matter. "A young woman, of the lowest and most unfortunate class of females, was a patient in Guy's Hospital, under the care of Dr. Bright, in the autumn of 1823. She was greatly emaciated, had a very quick and feeble pulse, a shining red tongue, and constant watchfulness. She suffered from constant and irrepressible diarrhœa, and for many successive days vomited both food and medicine: the catamenia were absent. The case made a considerable impression on my mind, from the extreme emaciation and colliquative diarrhœa, without any evident symptom of disease of the lungs or intestinal canal. After having been in hospital about two months, she suddenly complained of the most acute pain over the abdomen, and in a few hours expired. On opening the abdomen, death appeared to have been produced by the effusion of a large quantity of pus into the peritoneal cavity, which escaped from an abscess in the right ovarium; which abscess appeared to arise from suppuration in the substance of the viscus, similar in every respect to phlegmonous abscess in any part of the body, and not connected with any cyst, or change or addition of structure, the product of morbid growth."‡ But more frequently, the matter points at the iliac region, and escapes through the abdominal

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* Boivin and Dugès: Diseases of the Uterus, &c. p. 492, *note.*

† Ibid.

‡ Seymour on Diseases of the Ovaries, p. 39.

integuments,* or establishes a communication with the uterus, bladder, or rectum, and thence escapes externally.† This happened in the case of a nun who had never menstruated, as was discovered by a post-mortem examination.‡ Boivin and Dugès relates similar cases. Or the tumified ovary may descend lower in the pelvis, so as to be felt as a fluctuating tumor between the vagina and rectum, into either of which it may open. It has already been stated, that a communication is sometimes opened into the fallopian tube, and the matter thus discharged into the uterus. Pus has occasionally been found in the ovarian veins and lymphatics.

6. The disease may terminate in gangrene; but it is very rare, and will not be discovered till after death.

7. "Several of these diseases—as melanosis—may be fairly attributed to exudation of blood into the tissue of the affected parts; to a kind of unabsorbed, though organised ecchymosis, identified with the texture of the organ. There are cases, however, in which more serious consequences result from these sanguineous congestions, which are then rapid and violent, sustained by a hemorrhage effort, and, in short, resembling apoplexy or other hemorrhagy, from the capillaries which constitute the substance itself of the organ."§

8. It cannot be denied that inflammation *may* also have a share in the production of other morbid states—such as serous cysts, hydatid cysts; fibrous, cartilaginous, and osseous tumors; encephaloid, &c.

447. *Treatment.*—1. *Of acute ovaritis.* If the patient be attacked with puerperal fever, the remedies directed against the uterine or peritoneal affection will be equally proper for the ovarian. The most active antiphlogistic treatment will be necessary; venæsection, leeches to the iliac region, to the groins, anus, or labia, should be prescribed, followed by poultices and fomentations to the lower belly, calomel and opium, &c. Emollient vaginal injections, and enemata, will be beneficial; absolute rest and a spare diet must be adopted. A judicious application of these remedies will, in many cases, especially in idiopathic ovaritis, be adequate to the relief of the disease. We must attentively watch the course of the disease, and be prepared to meet each *complication* appropriately.

If matter be detected in the iliac fossæ or groins, it must be evacuated; but it is desirable that we should wait until adhesions be formed between the ovary and peritoneum: whenever this is the case, an opening is to be made with a bistoury or caustic. M. Solon thinks the latter preferable, because it tends to determine adhesions, whilst it forms an eschar, which eschar may be punctured in its centre. If the pouch of matter be felt through the parietes of the vagina, it will not be difficult to penetrate it with a lancet or trocar. In a case related by M. Solon, which occurred in the Hospital Beaujon, absorption of the matter took place just as it was determined to puncture the cyst.* Against gangrene we may employ antiseptics and chlorides internally, with blisters and camphorated frictions externally.

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* Denman's Midwifery, p. 476. See also a 'a Memoir' on 'ovarite puerperale,' by M. Montault.—Journ. Hebdom. 6 annee, vol. i. p. 413.

† Boivin and Dugès: Diseases of the Uterus, &c. p. 427, case 2.

‡ Mem. de l'Acad. de Sc. 1700. Obs. 5.

§ Boivin and Dugès: Diseases of the Uterus, p. 487.

2. In the *chronic form*, antiphlogistics are no longer of the same value, and we must have recourse to counter-irritation, by setons, moxas, &c.

Benefit is sometimes derived from frictions with iodine, or from its combination with mercury.

Small and repeated doses of calomel have been found very useful, with decoction of sarsparilla.

The general health should be attended to: the diet must be moderate, and gentle exercise may be taken.

Mineral waters have been taken with benefit.

Failing in all these remedies, it has been proposed to cut down upon and extirpate the ovary; but no one has been fool-hardy enough to reduce this suggestion to practice.

CHAPTER III.

ENCYSTED DROPSY OF THE OVARY.

448. THIS name is given to a morbid accumulation of fluid in the ovary, contained in one or more cells or cysts. It is a disease of slow growth. It is not frequent during the first half of female life, though some such instances are on record,† but it is by no means uncommon about the cessation of the catamenia. Extreme old age seems to be exempt from it. It appears that those who have borne children are more obnoxious to it than the unmarried, and that it attacks most commonly females of scrofulous habit.

449. *Pathology.*—The disease is considered by most authors as a dropsy of the graafian vesicles; and is supposed to consist primarily in an inflammatory condition of their lining membrane.‡ Dr. Burns

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* Nouv. Dict. de Med. et de Chir. prat.; art. Ovarite.

† Dr. Douglas saw a case in a female of 27 years of age.

‡ Nauche: Mal. prop. aux Femmes, vol. i. p. 165.

objects to the term 'dropsy of the ovarium,' inasmuch as "the affection is not dependant on an increased effusion of a natural serous secretion and exhalation, but is of the nature of what has, perhaps not very properly, been called cystic sarcoma; and consists in a peculiar change of structure, and the formation of many cysts, containing sometimes watery, but generally viscid fluid, and having cellular, fibrous, or indurated substance interposed between them, frequently in considerable masses."* Le Dran states that the dropsy always succeeds to scirrhus of the ovary, but this is denied totally by William Hunter and Burns.

The dropsical fluid varies much in quantity: there may be only a few ounces, or there may be several gallons.† Morand evacuated 427 pints in ten months.‡ Martineau§ also drew off 495 pints within a year, and from the same patient 6631 pints by 80 operations, within 25 years. A lady was tapped by Portal 28 times; and in a case related by Ford, the patient was tapped 49 times, 2649 pints having been taken from her. I have removed 140 gallons from one patient. It appears to be limited only by the distensibility of the ovary; for when it has been evacuated by tapping, the secretion recommnences with astonishing rapidity, so as to refill the sac in a very short time. The quality of the fluid varies. Dr. Rees‖ has examined it in several cases, and found albumen, fatty matter, alkalies, chlorides, with sulphate of lime and soda, extractive, &c. The contents of the sac may be quite fluid, viscid like jelly, or still more concentrated; and when there are many cells, fluid of different characters may be contained in each. It has been said that after each tapping the fluid becomes thicker: this, however, is by no means invariably the case.¶ It is difficult, if not impossible, to ascertain by abdominal manipulation what may be the consistency of the fluid. The fluctuation may be more or less obscure; but we cannot depend upon this, as it may arise from the density of the ovarian parietes, and the degree of distension. In color, it is generally yellowish; but this may vary to a dark brown, or even black,** and its transparency will in proportion diminish. "The fluid which they contain may be clear or yellowish in the smaller vesicles; clear and transparent, or muddy, thick like jelly, cream or honey, in the larger. It is sometimes mixed with fluid or coagulated blood; with hydatids, pus, fleshy substance as the remains of placenta; with membranes, hair, or bony matters. It is sometimes of a different color, consistence, and nature, in the different cells of the same cyst."* "M. Jules Fontanelle† ascertained by analysis, that of 8½ pints of this brown and turbid fluid, there were 6 parts of fibrine, 97 of albumen, 34 of congealed gelatine, a little phosphate and hydrochlorate of soda."† In one case under my care, after the first tapping, the ordinary secretion was mixed with a large quantity of fluid blood. This occurred three times, and was a main cause of death. Small scales of cholesterine are occasionally found in some of the cells.‡ But the contents of these dropsical sacs are not always fluid; we sometimes find hydatids§, and fleshy substances, resembling portions of placenta. Matters of a still more extraordinary character are by no means very rare. Hair,‖ teeth, bones, &c. have been discovered in considerable quantities.¶ The only rational explanation of the presence of the latter is the supposition that two germs may be involved in the same vesicle; and whilst one becomes the seat of dropsical accumulations, the other by some means is stimulated into partial development. Dr. Lee does not consider these singular productions to be connected with conception, but as examples of that monstrosity described by MM. Olivier and Breschet, as "*diplogénèses par penetration.*" According to Cruveilheir, the cysts may be *unilocular*, where probably only one vesicle was originally diseased, the walls are fibrous and smooth externally; *multilocular*, with an irregular surface; *multiple*, composed of a series of multilocular or unilocular cysts; *areolar* or *gelatiniform*, "in which the tissue of the ovary is divided into cells or areolæ, and which exactly resembles the areolar or gelatiniform cancer of the stomach," &c.; *acephalocysts.***

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* Midwifery, p. 136.

† Blundell on Diseases of Women, p. 105. Med. Chir. Trans. vol. xiii. p. 330. Boivin and Dugès: Diseases of the Uterus, &c. p. 495. Davis's Obstetric Medicine, vol. ii. p. 768.

‡ Mem. de l'Acad. de Chirurg. vol. ii. p. 448.

§ Philos. Trans. 1784, p. 471.

‖ Guy's Hospital Reports, vol. vi. p. 209.

¶ Blundell on Diseases of Women, p. 106.

** Hamilton: Pract. Obs. part i. p. 87.

At an early stage of the disease, the fluid may be contained in one vesicle; but as others are involved, and increase in size, the whole becomes agglomerated and adherent, forming what has been called multilocular or many-celled dropsy. This, however, is not always the case; in some instances, the fluid occupies but one large cavity. When there are cells, they may or may not communicate with each other. It is a great advantage when they do, as one puncture will drain the whole fluid, just as well as though it were contained in a single sac. "The late Mr. Cline used to exhibit a preparation of this sort, observing that if you tapped one of the cysts in this state of the parts, you would, of consequence, empty all the rest at the same time. Mr. Cline's preparation is the only case which it has been my lot to witness; but in many-cysted ovarian dropsy, it far more frequently happens (in nine cases out of ten, at least, and probably in a larger proportion,) that the cells are not in communication with each other, so that the tapping of one cyst produces a partial relief only."*

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* Nauche: Mal. prop. aux Femmes, vol. i. p. 165.

† Boivin and Dugès: Diseases of the Uterus, &c. p. 459, *note.*

‡ Cruveilhier: N. Dict. de Med. et de Chir. prat.; art. Ovaire.

§ Boivin and Dugès: Diseases of the Uterus, &c. p. 457. See also Med. Chir. Trans. vol. iv. p. 427.

‖ Anderson: Ed. Med. and Surg. Journal, vol. ii. p. 180; Abernethy: Med. Chir. Trans. vol. i. p. 35.

¶ Cyclop. of Pract. Med.; art. Diseases of the Ovaria.

** Nouv. Dict. de Med. et de Chir. prat.; art. Ovaire. Cruveilhier: Anat. Path. liv. 5, pl. 3.

If the inner surface of the sac be examined, it will in most cases be found quite smooth, and having the appearance of serous membrane: in some few others, it is covered by irregular excrescences, compared by Burns to uterine cotyledons. These may interfere with our wishes, if we try to procure adhesion of the walls of the sac by exciting inflammatory action. Each cyst is said to consist of three membranes; the external and internal ones serous; and the intermediate one of a fibrous texture."† The parietes vary much in thickness: sometimes they are as thin as brown paper; in other cases they are an inch thick. This increase may depend either upon a hypertrophied condition of the natural parietes, or upon the deposition of foreign tissue. "This dropsy, the most common of all encysted dropsies, is often complicated with some of the diseases which have been already described; so that one part of the cyst containing the fluid sometimes presents a considerable thickness, and appears to be scirrhous, cerebriform, or steatomatous. In such cases only could the empty cyst weigh fourteen and even twenty-seven pounds. The simple cyst is always fibrous; sometimes muscular and reticulated; it is of a greyish-white color, and its thickness varies considerably in such circumstances, in different persons; the sac, seldom thin and semi-transparent, more frequently presents one or more lines, and even an inch in thickness; this thickness, however, is not the same throughout. The ovarium, or its remains, which have sometimes entirely disappeared, may form a sort of knot on one of the parietes of the sac. In other cases there are similar knots, or cartilaginous, or even osseous deposits. The peritoneum covers externally this proper tunic; and very often numerous and voluminous vessels, really hypertrophied, like the organ itself which supplied the original elements of the cyst, are found over almost all the superfices, or in one of its regions exclusively. These are principally veins, according to Cruveilhier; Delpech considers them to be arteries, and says he has carefully dissected them, and found them in the parietes of the cyst, of the size of the little finger.‡ Dr. Hodgkin has given a most admirable account of the anatomical peculiarities of these adventitious structures.* He speaks of three classes. 1. Of those whose parietes present the very remarkable character of producing other cysts of a similar character with themselves. 2. Of those characterised by slender peduncles. 3. Of those with broad and extended bases. The description is too long for quotation, but will amply reward the perusal. Dr. Blundell, and other authors, speak of scirrhus combined with, and complicating, ovarian dropsy. Drs. Jones and Sieveking state the "genuine cyst products to consist of granular cells of circular form, with well-defined outlines, conveying the impression that the fluid itself was a germinating nidus. The celloid particles vary in size from $\frac{3}{10000}$ to $\frac{7}{10000}$ of an inch, they float in a fluid blastema, are colorless, and contain one or more granular nuclei; there are also corpuscles that are identical with blood corpuscles, though not contained in vascular channels. The walls of the cyst consist of delicate fibroid tissue, covered by a layer of cells, and delicate cells may be seen embedded in the tissue."† Occasionally large veins are seen meandering over the surface of the tumor; but this is not generally the case. Arteries may also be felt pulsating sometimes; and in one such case, I observed a distinct *bruit de* '*soufflet*,' like the placental '*souffle*.'

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* Blundell on Diseases of Women, p. 105.

† Nauche: Mal prop. aux Femmes, vol. i. p. 165.

‡ Boivin and Dugès: Diseases of the Uterus, &c. p. 457. See also Hooper's Morbid Anatomy of the Human Uterus, p. 20, et seq.

Besides the fluid contained in the cells, we have almost always a certain amount of solid matter, especially at the root of the tumor, and the solid matter may go on increasing until, as in a patient of mine, it occupies a large portion of the whole tumor, and seriously diminishes the capacity of the cysts.

The relations of the diseased ovary with the adjacent viscera may become practically important. In some cases it continues free and unconnected; but "when a patient has been tapped frequently, I strongly suspect that extensive adhesions to the parts adjacent will be by no means unfrequent: but if the disease have been unattended with much inflammation, it does certainly sometimes happen that the adhesions of an enlarged ovary are very slight, so that the whole mass may be taken away."‡ We shall see hereafter, that the proposed radical cure of the disease depends very much for success upon the freedom of the tumor.

This disease may attack one or both ovaries, but it is rare to find both arrived at the same stage: one may fill the abdomen, whilst the other is not larger than an orange.

450. *Causes.*—It is often very difficult to attribute it to any cause: the organs are so little exposed to ordinary irritants, so defended by

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* Medico-Chirurg. Trans. vol. xv. part ii. p. 275, et seq.

† Pathological Anatomy, p. 705.

‡ Blundell on Diseases of Women, p. 107.

the bony pelvis, and they yield so few indications of their primary affections, that in many instances we must be quite at a loss. It is sometimes coincident with disease of the womb, with suppressed menses, or checked leucorrhœa. It has been attributed to damage received during difficult labor, or to violent emotions, blows, falls, cold, &c.[*] Nauche conceives it to be constitutional, and the result of a scrofulous diathesis; whilst among the predisposing causes, Capuron[†] places celibacy, sterility, and old age. The remains of placenta, teeth, hair, &c. have been attributed to a false conception; but there are many circumstances which are left unexplained by this theory.

451. *Symptoms.*—For some months, or it may be years, after the commencement of the disease, the ovary will continue in the cavity of the pelvis; but upon attaining a certain size (just as with the uterus in pregnancy), it escapes into the cavity of the abdomen. Now, it is very evident that not only will the general symptoms vary, but that the mechanical symptoms resulting from pressure upon the pelvic viscera, will be very diverse from those which are developed after the tumor occupies the abdomen. In either case, they may be divided into those which arise from mechanical pressure, from sympathetic irritation, or from diseased actions in the ovary itself. The intensity of the two first is in proportion to the increase of the tumor; and the symptoms resulting may be equally well marked, whether the tumor be in the pelvis or abdomen. The latter series is developed as the disease approaches its termination.

452. Let us first enumerate the more prominent symptoms which arise whilst the tumor is in the pelvis.[‡] These are at first very deceptive: the patient feels a weight in the pelvis, without any illness; and as it often happens that the menses are suppressed, the breasts painful,[§] increasing in size, and sometimes secreting milk,[‖] she of course fancies herself pregnant. It is said that morning sickness occurs, as in early pregnancy. "In a case detailed by Vater, the patient had symptoms of pregnancy, secreted milk, and even thought she felt motion. The belly continued swelled, and she had bad health for three years and a

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[*] Burns' Midwifery, p. 149.

[†] Mal. des Femmes, p. 178.

[‡] "There are three characteristics by which recto-vaginal dropsy of the ovary may be known: a tumor within the cavity of the pelvis, with the vagina in front, and the rectum posteriorly; a fluctuation more or less palpable, and an assemblage of symptoms more numerous in some cases, of smaller number in others, but most of them referable to irritation, obstruction, and compression of the viscera within the pelvis."—*Blundell on Diseases of Women*, p. 108.

[§] M. Robert says that it is generally the one on the same side as the diseased ovary.

[‖] Burns' Midwifery, p. 137.

half, when she died. The abdomen contained much water, and the right ovarium was found to be as large as a man's head, containing capsules, filled with purulent-looking matter. The uterus was healthy, but prolapsed, and the ureter was distended from pressure.* This was not a case of extra-uterine gestation, for the ovarium was divided into cells, and had no appearance of fœtus."†

As the tumor increases in size, its weight becomes an inconvenience, and is accompanied by occasional dysuria, and sometimes by constipation and piles. The pressure upon the rectum, by arresting the progress of the intestinal contents, sometimes gives rise to a great distension of the bowels, and also to dilatation of the ureters. "In a case," says Dr. Robert Lee, "which lately came under our observation in the Marylebone Infirmary, an ovarian cyst having become firmly impacted between the bladder and rectum, produced all the symptoms of stricture of the rectum. In a lady now under our care, the presence of an ovarian or uterine tumor in the pelvis, which presses upon the neck of the bladder, renders it impossible for the bladder to be emptied without the introduction of the catheter."‡ The patient will also complain of a dragging sensation from the loins.

If a vaginal examination be made, we may discover a tumor between the vagina and rectum; and if the parietes be thin, fluctuation may be detected. The os uteri may be in its natural situation, depressed or elevated, or pushed to either side, just according to the size and situation of the ovarian tumor, which is not sensible to pressure.

If the finger be introduced into the rectum, past the tumor, we shall find the fundus uteri, and be able to distinguish it from the enlarged ovary. This is very necessary, or we might conclude the case to be retroversion of the womb. In addition, we may perhaps be able to decide whether one or both ovaries be diseased.

453. But if we are not called to the patient until the ovary has ascended into the abdomen, we shall find some alteration in the symptoms. There is no complaint of weight in the pelvis, or of bearing down, and the constipation may have ceased. Instead of difficulty in passing urine, the patient now rather complains of the impossibility of retaining it long. The pressure upon the veins of the rectum and lower extremities may be attended with the usual consequences (as in pregnancy); piles may form, and one or other leg may become œdematous.

As the tumor increases, it will be found to compress more or less the intestines, stomach, liver, and even to push up the diaphragm, interfering with the functions of the stomach, and giving rise to palpitations, dyspnœa, heartburn, &c. The quantity of urine is sometimes diminished, in others unaltered. In a case related by Portal,[*] the ureters and kidneys were compressed, and the urine retained. When the sac was punctured, the urine flowed freely into the bladder.

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* Haller's Disp. Med. tom. iv. p. 40.

† Burns' Midwifery, p. 137, *note*.

‡ Cyclopedia of Pract. Med.; art. Diseases of the Ovaria. Also, Burns' Midwifery, p. 138.

The patient's having been some time ill, and debarred from active exercise, will interfere with her general health; and it seldom happens that these tumors attain a large size in less than a year or more. The sympathetic irritations very often persist, the breasts continuing large and painful, and secreting a thin milky fluid. It does not always interfere with the generative functions, for I have known pregnancy to occur during the existence of an ovarian dropsy.[†] If the tumor have ascended into the abdomen, no inconvenience may be experienced; but if not, parturition may be impeded, and the patient be more or less compromised. Menstruation is sometimes regular, sometimes interrupted or suppressed. Dr. Seymour says, that "when both ovaria are diseased in this way, the catamenia are always absent.

If we examine the abdomen, we may detect the tumor as soon as it appears above the brim of the pelvis, and it will then be found lying in one of the iliac fossæ. There it remains for some time, gradually encroaching upon the abdominal cavity as it increases, but, until it quite fills it, always leaning more to one side than the other, and occupying the lower rather than the upper half. The surface may be felt to be either smooth or tuberose; and if the walls be tolerably thin fluctuation will be detected. This sign is more obscure before the the ascent of the tumor, unless the accumulation be considerable.

If a *vaginal* examination be made, the uterus will be found higher than natural, with the cervix drawn out as during the latter months of pregnancy. Pressure upon the os uteri communicates no shock to the other hand placed upon the abdomen.

The general health, I have already said, is tolerably good for a considerable time; but as the disease advances, it is interfered with by the third class of symptoms, or those which are caused by diseased action in the ovary itself. Dr. Burns' description is so graphic, that I quote it with pleasure:—"In the course of the disease, the patient may have attacks of pain in the belly, with fever, indicating inflammation of part of the tumor, which may terminate in suppuration, and produce hectic fever; or the attack may be more acute, causing vomiting, tenderness of the belly, and high fever, proving fatal in a short time; or there may be severe pain, lasting for a shorter period, with or without temporary exhaustion, and these paroxysms may be frequently repeated: but in many cases these acute symptoms are absent, and little distress is felt until the tumor acquires a size so great as to obstruct respiration, and cause a painful sense of distension. By this time the constitution becomes broken, and dropsical effusions are produced. Then the abdominal coverings are sometimes so tender, that they cannot bear pressure; and the emaciated patient, worn out with restless nights, feverishness, and want of appetite, pain, and dyspnœa, expires."*

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[*] Cours d'Anatomie Medicale, tom. v. p. 549.

[†] Med. Chirurg. Trans. vol. xviii. p. 226. Hamilton's Practical Observations, part i. p. 71.

Encysted dropsy of the ovary is of slow growth, and may last many years without destroying the patient, though these cases are rare. "The Memoirs of the Academy of Surgery prove that it may last fifty-eight years. Professor Sabatier has examined the bodies of several women who have carried these encysted tumors during half a century, without alarming derangement of health. Dropsy of the ovary, then, is not a very alarming disease, unless it be very ancient and very voluminous."†

454. It may terminate in various ways, but unfortunately it is very seldom that the patient escapes.

1. In some few cases the disease would appear to have terminated in *resolution*, by absorption of the fluid.

2. *Inflammation* may take place in the serous covering of the cyst, giving rise to *adhesions* between the ovary and the small intestines,‡ colon, bladder, vagina, &c. into which the ovary *sometimes* opens, and by which the fluid is evacuated, with at all events temporary relief, and in some cases perfect cure.§ Through the kindness of Dr. Croker, I had an opportunity of seeing more than one patient in the 'Hospital for Incurables,' who obtained relief from time to time in this way. These adhesions very often alter the position and relation of the viscera. The sac has in some cases opened externally through the umbilicus, or through the groins.

3. M. Adolphe Richard has related‖ five cases in which a communication was formed between the ovary and the fallopian tube, which

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* Burns' Midwifery, p. 139.

† Nauche: Mal. prop. aux Femmes, vol. i. p. 174. See also a case in Medical Gazette for July 18, 1836.

‡ "When I was attending the wards of this hospital, a woman of the name of Myers came here with an exceedingly large abdomen: this enlargement was occasional, and the woman got better repeatedly after large spontaneous eruptions of water, by vomiting and purging. Now, I have no doubt that in this case the dropsy was ovarian, and in all probability the cyst occasionally opened into the intestines, by ulceration or rupture, a sort of natural tapping being performed."—*Blundell on Diseases of Women*, p. 122.

§ Denman's Midwifery, p. 84. Seymour's Illustrations of Diseases of the Ovaria, p. 52.

‖ Mem. de la Sociète de Chirurg. de Paris, vol. iii. fas. 2.

would afford an opportunity for the escape of the fluid, as in the cases of Morgagni,[*] Frank,[†] Follin, and Boivin and Dugès, in which the fluid was thus repeatedly evacuated.[‡]

4. *Inflammation* may attack the ovary, and carry off the patient, either quickly or after the formation of matter.[§] This not unfrequently happens after the patient has been tapped.

5. *The parietes of the ovary may give way*, and its contents be evacuated into the peritoneum, sometimes causing death by inflammation; but in a few other cases obliterating the sac by adhesions.[‖] Dr. Simpson states as the result of his experience, that when the fluid is the simple dropsical fluid, it does not excite peritonitis, but that when it has been altered by inflammatory action in the lining membrane, it proves irritant, and peritonitis is the result; but I certainly saw an exception to this rule.

455. *Diagnosis.—Whilst confined to the pelvis*, it may be distinguished—

1. From *retroversion of the uterus*, by its slow growth, the mildness of the symptoms, and by an examination 'per rectum,' and the use of the uterine sound.

2. From *dropsy of the fallopian tubes*, by a careful examination 'per vaginam' and 'per rectum,' and by the more prominent symptoms, such, as weight, downward pressure, dysuria, and constipation.

3. From *early pregnancy*, by careful internal examination only, by which the ovary can be distinguished from the fundus uteri. The diagnosis, however, may be confused by the co-existence of pregnancy and encysted dropsy.

4. From *tumors in the cellular membrane, between the vagina and rectum*, principally by the extent of its mobility.

After its ascent into the abdomen, it may be distinguished:

1. From *the distended bladder*,[¶] by a vaginal examination, and by the effects of catheterism, which should never be omitted in all such cases.

2. From *ascites*, by the defined form of the tumor, by its permanent inclination to one side, by its being unaltered in the recumbent posture, and by the *obscure* fluctuation; by a vaginal examination, which will reveal the elevation of the uterus, and by an investiga-

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[*] De Sedibus et Causis Morb. 2nd letter.

[†] De Curand. Morb. Hom., book 6, part 1.

[‡] Association Journal, No. 7, p. 155.

[§] Patterson: Philadelphia Med. Examin. February 16, 1839. H. Davies: Med. Gazette, 1839. Douglas: Med. Gazette, December, 6, 1839. Crisp: Ranking's Abstract, vol. ii. p. 240.

[‖] Addison: Guy's Hospital Reports, No. 1, p. 41.

[¶] "A distended bladder has been mistaken for ovarian dropsy; nay, the uterus itself has been tapped when the womb has been pregnant."—*Blundell on Diseases of Women*, p. 111.

tion 'per rectum,' which enables us to detect the enlarged ovary. Percussion here is of great value—in ovarian dropsy, the tumor yields every where a dull sound, whereas, in ascites, unless the abdomen be extremely distended and tense, the superior part is comparatively clear, whether the patient lie on the back or side. The general symptoms are less marked in ovarian dropsy than in ascites.

3. From *chronic peritonitis*, by the dulness of the abdomen on percussion, its tenderness, the projections which it contains, parallel to portions of adherent intestines.

4. From *pregnancy*, by the duration of the disease sometimes, and by a careful comparison of auscultation, vaginal and rectal examinations, and the symptoms. I may just remind the reader, that if the tumor contain any large arteries, a sound perfectly resembling the *placental souffle* may exist, quite independent of gestation.* Bouillaud, in his Traite Clinique des Maladies du Cœur (Brussels Edit. p. 73), when speaking of the anormal sounds of arteries, mentions two cases of tumor in the region of the ovaries, accompanied by "bruit de soufflet, ordinaire et intermittente;" and this he attributes to their pressing upon some large artery. I have seen more than one such case.

5. From *extra-uterine pregnancy*, by the history of the case, and by careful *external* and *internal* examination.

6. From *uterine tumors*, by the use of the sound, which will show the position and size of the uterus, and its distinctness from the ovarian enlargement: and by the difference of the shock communicated by percussion on the abdomen, to the finger placed on the os uteri.

7. From *malignant disease of the ovary*, by its more rapid growth, and by the mild character of the symptoms. "Rapid growth, when it occurs, is an excellent diagnostic; for though slow growth is no certain disproof of encysted accumulation, we may be almost certain that the ovary is enlarged from dropsy, scirrho-dropsy, or at all events an encysted accumulation of one kind or another, if the growth have taken place in the course of a few months."†

Dr. J. H. Bennet of Edinburgh has proposed the microscopic examination of the fluid removed by paracentesis, as an additional ground of diagnosis. "In this fluid flocculi exist, which are not composed of lymph, as was at first supposed, but of numerous cells varying in size from one-hundredth to one-fortieth of a millimetre in diameter. They are slightly granular, of round and oval shape, unaffected by water, but becoming more transparent on the addition of acetic acid, and exhibit a distinct nucleus about the one-hundred and fortieth of a millimetre in diameter. The indurated cells are imbedded in a granular matter which may be easily broken down. They thus resemble those which constitute the epithelial surface of certain membranes. The cysts in the diseased ovary are lined by a delicate membrane, covered with nucleated epithelial cells, and there is no difficulty in identifying the corpuscles seen in the fluid with those observed lining the cyst."*

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* Dr. Montgomery on the signs of Pregnancy, p. 123.

† Blundell on Diseases of Women, p. 108.

456. *Prognosis.*—In forming our prognosis, we must be governed very much by the size of the tumor, by the length of time it has existed, by the local condition, and by the constitution of the patient.

457. *Treatment.*—At an early period, whilst the tumor is within the cavity of the pelvis, we may attempt the palliative treatment, though Capuron and others express great doubts. Diuretics, diaphoretics, and purgatives, with abdominal frictions, may be employed, provided they are not carried to such an extent as to injure the constitution of the patient. In some cases they have appeared to be useful, but more generally no benefit is derived from them, so that the opinion of the profession is rather adverse to their use, and I confess that such has been my own experience. Dr. Simpson explains the failure of internal remedies on the ground that the lining membrane is not an absorbing surface.

"In the beginning of this dropsy, when the increasing ovarium is first perceptible through the integuments of the abdomen, and sometimes in its progress, there is often so much pain as to require repeated local blood-letting by scarification or leeches, blisters, fomentations, laxative medicines, and opiates, to appease it. I have also endeavoured to prevent or remove the first enlargement by a course of medicines, the principal of which is the ung. hydrarg. rubbed upon the part, or calomel given for a considerable time in small quantities, with an infusion of burnt sponge; or the ferrum tartarizatum or ammoniacale; trying occasionally what advantage was to be obtained from blisters; from a plaster composed of gum ammoniacum, dissolved in the acetum scillæ; or lastly, from electricity. From all or some of these means I have frequently had occasion to believe some present advantage was obtained, or mischief prevented; but when the disease has made a certain progress, no method of treatment has hitherto been discovered sufficiently efficacious to remove it or prevent its increase."†

"When they (diuretics) produce any effect, it is chiefly that of removing dropsical affection combined with this disease; and in this respect they are most powerful immediately after paracentesis. With regard to their power, or the power of any other medicine, of diminishing the size of the ovarium, my opinion is that they have no more influence on it than they have over a melicerous tumor on the shoulder, or over the disease when it occurs in the testicle, or over the configuration of the patient's nose."‡

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* Ed. Med. and Surg. Journal, April 1, 1846, p. 403.

† Denman's Midwifery, p. 81.

‡ Burns' Midwifery, p. 141.

Gentle percussion combined with compression of the tumor, has been tried, and, it is reported, with success. Dr. Hamilton states, that after sixteen years' trial, he has "succeeded in a number of cases, in curing or retarding the disease, by the simple means above alluded to, viz. from compression of the abdomen, percussion, the use of the warm bath, and a protracted course of the muriate of lime, together with the ordinary means for promoting general health." The Professor strongly objects to the use of mercury.* Mercurial frictions have been temporarily successful, but there are objections to their employment. More benefit has been anticipated from iodine, but the cures are at present too recent to be relied upon. It must be administered with great caution, and only in the absence of all signs of inflammation.

It will be desirable that we should apply ourselves to the relief of any mechanical inconvenience, such as strangury or constipation, by catheterism and aperient medicine. Complete relief may sometimes be afforded by pushing the tumor above the brim of the pelvis. If there be any local complication or constitutional debility, such will be important objects of judicious treatment. Nauche recommends, in scrofulous constitutions, besides the general remedies usually employed, frictions of the abdomen with the ung. napolit., or with an ointment containing eight or ten grains of calomel, or from ten to twenty grains of hydriodate of patosh, or the induret of mercury, in the ounce.† As to the plan to be adopted when the pelvic tumor offers an impediment to parturition, if we cannot push it above the brim of the pelvis, there can be no hesitation in agreeing with Burns, that puncturing the ovary should be tried before having recourse to the crotchet.

458. When the tumor has ascended into the abdomen, I believe medical treatment quite unavailing except for the relief of symptoms, but it is still advisable to postpone all operative interference as long as possible; but when this can no longer be done, when the tumor is so large and so tense as to impede the functions necessary to life, or to threaten rupture, then we anticipate the evil, and evacuate the fluid by making an incision through the integuments, and plunging a trocar into the sac, about midway between the pubes and umbilicus, a little to one side of the linea alba. Petit, Radel, Ledran, and Monro mention cases which were cured by this method; but more generally the relief is but temporary.‡ The objections urged against the operation are, 1. The woman may sink from exhaustion, if the fluid be evacuated rapidly. 2. Inflammation of the peritoneum may carry off the patient.

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* Pract. Obs. part i. pp. 102, 105, 108.

† Mal. prop. aux Femmes, vol. ii. p. 175.

‡ Hamilton's Practical Observations, part i. p. 111. Dolhoff: Rust's Magazine, vol. li. pp. 1, 85.

3. Inflammation may attack the sac, and prove fatal.* 4. The sac refills with such rapidity as to require repeated tappings. 5. The operation may be performed in vain, in the case of many-celled encysted dropsy, if the cells do not communicate, or if the fluid be too viscid to pass through the canula,† or if the main bulk be hydatids. 6. If scirrhus be combined with the dropsy, the operation will be of no avail, and the patient's end be rather accelerated. Of twenty cases given by Mr. Southam from his own practice, and that of Drs. Bright and Barlow, fourteen died within nine months after the first operation, four of whom survived it only a few days. Of the remaining six, two died in eighteen months, and four lived for periods varying from four to nearly nine years. It further appears that paracentesis does not prolong life, on an average, for more than eighteen months and nineteen days, and that one in five dies from the effects of the first operation. Of forty-six cases collected by Dr. Lee, thirty-seven died and nine recovered; fifteen died within a month after the operation; seventeen by the end of two years; and five from three to fifteen years afterwards. All these considerations should be duly estimated before we attempt the operation; but, notwithstanding all, the temporary prolongation of life is of such importance as to induce us to operate. The patient should be placed on her side, near the edge of the bed, and

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* The late Mr. Chevalier once had occasion to tap an ovary containing seventeen gallons. In this case it was thought proper to proceed with caution, and the water was drawn off, not all at once, for this sudden collapse would have been dangerous, but at three or four different times; yet, notwithstanding the prudent manner in which the operation proceeded, extensive inflammation of the cyst ensued, and the woman died hectic, at the end of a few weeks, with one or two gallons of puriform matter in the cyst. It is remarkable that no inflammatory tenderness accompanied this attack."—*Blundell on Diseases of Women*, p. 113, *note*.

† "I remember once seeing a woman in the east of the town, laboring under a dropsy of this kind, for which tapping was recommended. On seeing this woman, I told her friends that the contents of the ovary were probably viscid; for, though the growth had been rapid, the fluctuation was obscure: nor did I regret this contrary opinion, for when the ovary was tapped, there came away enough to show that encysted accumulation existed; but still the discharge was sparing, viscid, and the tumor remained unreduced. Mr. Abernethy afterwards saw this case, when the urgency of the distension led the attendant to operate again, with as little benefit as before; on observing this, Mr. Abernethy prudently dissuaded from further attempts, observing, as I was informed, 'that it would not do to go on boring holes in the belly,' and ultimately the patient died."—*Blundell on Diseases of Women*, p. 112, *note*.

an elastic binder around the body will be found a great benefit. A trocar and canula appear to occasion the least pain, and it should be plunged sufficiently deep to insure its traversing the parietes of the cyst. After the operation, a broad binder should be applied tightly round the abdomen.

It has been mentioned that one tapping necessitates another, if the patient live. Whenever this is the case, the patient should be very carefully examined, to ascertain if she be pregnant. This, which is necessary in every case, becomes doubly so the second time, as the patient may have conceived in the interval. The distended bladder and the pregnant uterus have both been punctured by mistake for ovarian dropsy.

If there be many cells, we are advised to make several punctures.[*] or if the fluid be viscid, to make a large opening;[†] but both these propositions are very doubtful.

In some cases it has been deemed advisable to puncture the tumor through the vagina.[‡]

459. Considering the unsatisfactory result of merely evacuating the contents of the sac, several other plans have been proposed in order to obtain a radical cure.

1. It has been suggested, that after the emptying of the sac, some stimulating fluid might be injected, as is done occasionally in hydrocele, for the purpose of exciting inflammation, which may end in obliteration of the sac.

For this purpose a solution of iodine has been injected, and without any evil result, although some 'pain may be felt, and a considerable febrile disturbance be temporarily effected. Dr. R. C. Williams of this city, and Dr. Alison of Indiana, were, I believe, the first to try this method, and after two or three injections, Dr. W. found the tumor contracting, and the walls of the sac becoming thicker, but, unfortunately, the patient was carried off by another disease.

In Dr. Alison's case the cyst became obliterated.

M. Boinet has published thirteen cases in which it was used, and in ten he states the patients were cured.[§] Dr. Simpson has injected ten or twelve cases of ovarian dropsy with iodine; the disease had recurred in a few of the cases, but in the others the cure has as yet been permanent. The operation was unattended with any bad results.[‖] Mr. Baker Brown has tried it with benefit. I tried it in a case where effusion of blood took place into the sac, but the patient derived no benefit, and sank from the hemorrhage.

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[*] Lancet, May 25, 1839.

[†] Nauche: Maladies propres aux Femmes, vol. i. p. 176.

[‡] Med. Gazette, March 16, 1839.

[§] Iodotherapie, p. 409.

[‖] Obstetric Works, vol. i. p. 261.

The quantity of iodine used may vary from two to four ounces of the tincture, or from one to two drachms of the hydriodate of potash, with two drachms of the tincture in water. The sac should be nearly emptied, and then the iodine injected through the canula. A portion of the fluid may afterwards be allowed to escape. If there be pain, opium must be given, and stimulants if collapse should take place. The febrile action will last for a day or two, and then subside. Iodine may generally be detected in all the secretions. On the whole, I am satisfied that it is a remedy deserving a further trial.

2. Dr. Blundell* has proposed *early* tapping, as a "practice which may be *thought* of" in these cases, on the principle, that as in the smaller cysts the accumulation is less rapid, the patient would suffer less by the operation. He thinks that a puncture might be made into the tumor whilst in the pelvis, or an incision into the abdominal parietes might allow the finger to guide a trocar down the tumor.

3. In some cases an attempt has been made to obtain a cure by making an extensive incision into the ovary, and producing an artificial duct, and sometimes with success. (*Ledran,*† *Houston,*‡ *Voisin,*§ *Portal,*‖ *Delaporte,*¶ *Browne.***

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* On Diseases of Women, p. 119.

† Mem. de l'Acad. de Chir. vol. iii. pp. 431, 442.

‡ Philos. Trans. vol. xxxiii. p. 5.

§ Recueil periodiq. vol. xvii. p. 381.

‖ Cours d'Anatomie, vol. ii. p. 554.

¶ Mem. de l'Acad. de Chir. vol. i. p. 452.

"In cases where the encysted fluid is too thick, or when it is contained in many distinct cells, Ledran advises that an incision should be made in the lowest part of the tumor, and kept open by means of a tent. His intention is to destroy by this means the parietes of the tumor, and to procure a firm cicatrix. But this method is generally abandoned, because it was remarked that it accelerated the death of the patient. It has also been proposed to extirpate the ovary. But even if this were safe for a healthy woman, who would dare to attempt it when the ovary may be diseased? Must we not fear the gravest accidents? We conclude, then, that the extirpation, as well as the incision of the ovary, ought to be rejected as dangerous and insufficient."—*Capuron: Mal. des Femmes*, p. 187.

"It has been attempted to produce a radical cure, by laying open the tumor, evacuating the matter, and preventing the wound from healing, by which a fistulous sore is produced; or by producing a tent, or throwing in a stimulating injection. Some of these methods have, it is true, been successful, but occasionally they have been fatal; and in no case which I have seen have they been attended with benefit."—*Burn's Midwifery*, p. 142.

** Surgical Diseases of Women, p. 227.

460. 4. Lastly, the extirpation of the diseased ovary has not only been proposed but practiced to a considerable extent. It is said to have been first recommended by Vanderhaar, and afterwards by Delaporte, Morand, and Logger. In more recent times it is advocated by Blundell, Lizars, Warren, Dieffenbach, Clay, S. Lee, Atlee, Smith, &c.

It is opposed by De Haen, Morgagni, Murat, Capuron, Hamilton, &c. I may add Dr. Hamilton's objections; he says: "1. It is extremely difficult to distinguish enlargement of the ovary in its early stages; and it is still more difficult to foretell the progress of such enlargements; any operation might therefore be useless or unnecessary; useless if there be no disease, and unnecessary if the disease be in a stationary condition. 2. There is always a risk, in cases of enlarged ovary, that there may be a complication of organic disease, or that morbid adhesions may have formed, connecting the disease with other parts. 3. As no prudent practitioner would think of operating unless the patient's health suffered or seemed to suffer from the disease, there must, in every such case, be the hazard of some malignant affection existing, which no operation could remedy."

It has recently been repeatedly performed with varying success, as may be seen by referring to the list of cases published by Dr. Atlee in the *American Journal of Medical Science* for April, 1845, or to the appendix to Mr. Safford Lee's work on Tumors of the Uterus, &c. where all the peculiarities of each operation are given in a tabular form. The results are summed up in the following extract from a subsequent paper by Dr. Atlee: "In the *Amer. Journ. of Med. Sciences*, April, 1845, I published a table of 101 cases of Ovariotomy, in which I made a synopsis of the important points of each case. Since the publication of that table, I have been watchfully keeping pace with the operation, and have now tabulated 179 cases. I also made an analysis of that table, in order that the profession might see at a glance the most important aspects of this operation prominently arranged. I have done the same with my manuscript table, and will submit it to the profession, in order that they may properly estimate the present condition of gastrotomy: "1. Of these 179 cases, 28 were of the minor section, 133 of the major, and 18 unknown. Of the minor operation, 20 recovered and 8 died, or one in every $3\frac{1}{2}$; of the major, 87 recovered and 46 died, or one in $2\frac{41}{46}$; of the unknown, 13 recovered and 5 died, or one in $3\frac{3}{5}$. Total, 120 recovered, 59 died, or one in $3\frac{2}{59}$, or 59 in 179 cases, or 32.96 cases in 100. 2. Of the 179 cases, 34 were not completed, or one in $5\frac{9}{34}$; and, in 6, there was no tumor, or one in $29\frac{5}{6}$ cases. 3. Of the 34 unfinished operations, 19 were the large section, 8 the small, and 7 unknown; 14 of the first recovered, 5 died, or one in $3\frac{4}{5}$; 4 of the minor recovered, 4 died, or one in 2; 6 of the unknown recovered, 1 died, or one in 7. Total, 24 recoveries, 10 deaths, or one in $3\frac{2}{5}$ of the unfinished cases. 4. Of the six operations in which no tumor was found, 5 were major, and 1 minor; 3 of the former recovered, 2 died; and the minor recovered—making

4 recoveries, 2 deaths, or one in 3 cases. 5. In 17 cases, other important diseases co-existed; in 4 of these the operation was left unfinished, and all the patients recovered; death occurred in all the rest but one. 14 of these cases were the major, 2 the minor, and 1 unknown. 6. In 62 cases there were adhesions; in 41, none; in 76, not stated. Of the first, 36 recovered, 26 died, or one in $2\frac{5}{13}$; of the second, 29 recovered, 12 died, or one in $3\frac{5}{12}$ cases. 7. The cause of death in the 59 fatal cases is recorded as follows: From hemorrhage, 12; peritonitis, 12; exhaustion, 3; shock of operation, 2; inflammation of mucous coat of large intestines, 1; gangrene of intestines, 1; gangrene of peritoneum, 1; peritonitis and gangrene, 1; diarrhœa and peritonitis, 1; peritonitis and constitutional debility, 1; inflammation of lungs, 1; ileus and phlebitis of lower limbs, 1; a fall during convalescence, 1; causes not stated, 21. Total, 59. 8. The period of death after the operation in 59 fatal cases is recorded as follows: died the 70th day, 1; in six weeks, 2; in 3 weeks, 1; the 17th day, 1; the 15th day, 1; the 14th day, 1; the 10th day, 1; the 9th day, 1; the 7th day, 3; the 6th day, 5; the 5th day, 2; in 3 days, 3; in 74 hours, 1; in 2 days 1; in 44 hours, 1; in 36 hours, 5; in 32 hours, 1; in 30 hours, 1; in 17 hours, 1; in 12 hours, 2; in 11 hours, 1; in 8 hours, 1; in 6 hours, 1; in 4 hours, 1; immediately, 2; time not stated, 18. Total, 59. The average time of death in 41 cases stated, 8 days. 9. Of the 17 cases complicated with other important diseases, 7 were manifestly not proper for the operation; and 8 others, instead of 4, ought to have remained unfinished after the abdominal section was made. Throwing the first 7 cases out of the estimate, would leave 172 legitimate cases; and rating the 4 others, that ought to have remained unfinished, according to the mortality of unfinished operations, it would make 123 recoveries and 49 deaths, or one in $3\frac{25}{49}$, or $28\frac{21}{43}$ deaths in 100 cases, which I consider the correct rate of mortality of the operation, as it is represented by my manuscript table. 10. Under the head of the 8th paragraph, I have stated that death occurred, in one instance, on the 70th day; in two instances, after the expiration of six weeks, and in another case, from a fall during convalescence. Now, I would ask, is it proper to consider the fatal termination in these cases the result of the operation? Or rather, ought they not to be considered as having recovered from the *operation*, and be so reported? If so, then the fairest estimate would be, (after throwing out the 7 cases referred to), 127 recoveries, and 45 deaths; or one in $3\frac{37}{45}$, or $26\frac{7}{43}$ deaths in 100 cases. 11. The rate of mortality has very much diminished since the publication of my table in 1845. Then, there was one death in every $2\frac{23}{35}$ cases of gastrotomy, or 37.62 deaths in every 100 cases. Since the publication of that table, 78 cases have occurred, in which there was one death in every $3\frac{5}{7}$ cases, or 26.92 deaths in every 100 cases—a diminution of nearly 40 per cent. in the rate of mortality. 12. There has also been a diminution in the proportion of unfinished operations, and in no

case since, has the abdomen been opened for the purpose of removing a tumor when no tumor could be found. It should also be observed, that several of the more recent unfinished operations have been of an exploratory character. Hence, diagnosis has also improved."

Mr. S. Lee has given 114 cases in which ovariotomy were performed up to 1846, of which number 74 cases have recovered, and 40 died, or nearly one in 3. "Of these 114 operations, in 24, or rather less than one in 5, the operation was obliged to be abandoned, either from extent of adhesions, from the tumor being a uterine or omental one, or from there being no tumor at all; proving, most indisputably, the difficulties of the diagnosis. In 90 cases, when the tumor was removed, nearly one died to three recoveries." Adhesions existed in 46 of 81 cases, and in such cases the mortality was one in 2¼, whilst in other cases it was one in three. When death takes place in consequence of the operation, it is very rapid. Of 30 patients where tumor is mentioned, 14 died within 36 hours, and 25 within a week. The character of the disease seems to influence the mortality. In the cases of hard tumor of the ovary, the mortality was more than one-half; whereas, when the tumor was composed partly of fluid and partly of solid matter, it was less than one in 3. The mortality, when the large incision was made, was one in 2½; but when the smaller, one in 6.*

Since the above was written, the operation has been repeatedly performed with varying success. In the hands of those whose skill in diagnosis is considerable, the operator has succeeded in fair proportion.† I have not however thought it necessary to refer to these cases as they have not changed the conclusions at which I have aimed. I may add that Dr. Fock has collected 292 cases, of which 92 could not be completed owing to an error in diagnosis, yet of the 292 cases there were 120 cures, 120 deaths, and 52 recovered, but were not cured.‡

461. With these facts before us, and also the results of tapping, we must endeavour to come to a conclusion as to whether the operation is justifiable or not. After a careful scrutiny of each case, I quite agree with Mr. Safford Lee, that "in the majority of cases which come under our notice, it is my opinion that the operation of ovariotomy is unjustifiable." "I think that the operation is unjustifiable *when the diagnosis is not clearly ascertained.* The diagnosis in these cases is very difficult, and perhaps in some hardly to be given with certainty; then, may I ask, ought surgeons to operate in such?" "Another reason against the performance of this operation is the existence of adhesions." The mortality, we know, is much greater, and it is by no means easy to ascertain their extent during life. Again, the

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* On Tumors of the Uterus, &c. p. 210, and Appen. p. 264.

† Erickson and Murphy's case, Association Journal, Jan. 13, 1854.

‡ Brit. and For. Med. Chir. Rev. Oct. 1856, p. 552.

general condition of the patient, the existence of organic disease, &c. will often prohibit the performance of so serious an operation.

On the other hand, bearing in mind that the ovarian disease must end fatally, and is but little influenced by medicine, and moreover, that after the other operation for its relief—tapping—nearly one-half die after the first attempt, we may conclude from the results of ovariotomy, that in some cases the operation is very justifiable. It is in those cases of encysted tumor which have enlarged to such an extent as to demand active interference, or when a unilocular cyst which has been under treatment some time is becoming multilocular by the addition of secondary and tertiary cysts upon its inner surface, that the operation ought to be performed. In such cases, if the diagnosis be correct, if adhesions are absent after the symptoms already noticed have been intelligently inquired of, and the health of the patient be good, the surgeon is bound to give to his patient the last aid of his art, and remove a tumor which, if allowed to remain, tends to destruction. He should, however, first carefully and honestly lay before his patient the danger she has to undergo; he should inspire her with confidence by the relation of successful cases, but he should also inform her of those less fortunate. By this means he will acquire a confidence which he will find very useful in his after treatment, and upon which may depend the result of the operation. We find that when the tumor is cystic, the mortality is as one death to six recoveries; and this speaks very favorably for such an operation. The cysts should be single, and uncomplicated with hard matter, and the powers of life active. In such cases, if the operator be skilful, and the after treatment carefully attended to, a successful result may be anticipated.

462. As the diagnosis of these tumors is of prime importance, I may be allowed to make one or two additional remarks upon the subject.

1. The abdominal muscles appear to acquire the power of involuntarily assuming the form and appearance, and of communicating the sensation of a tumor. In some cases it seems as if the result of the form given to them by a former pregnancy. Against this deception we can in a great measure guard ourselves, by prolonging our abdominal manipulation, and calling the muscles into action by leading the patient to converse, or by the use of chloroform. Percussion will also aid us in coming to a right conclusion, and if we make an examination per vaginam and per rectum, there will be but little doubt remaining. And I would observe that an examination per rectum is most valuable, in all cases of real or supposed ovarian disease.

2. In the majority of cases the continuity of the tumor, ascertained by the perception with a finger on the os uteri of a shock impressed upon the abdomen, is nearly decisive of a tumor being uterine; and the very feeble or absent impression of such shock, of its being ovarian. The exceptions are mainly those cases where adhesions have taken

place, uniting the pelvic viscera closely together. Dr. Simpson's sound may be advantageously used for this purpose. It is to be introduced into the uterus, and then, by turning it one way, and pressing the tumor the other, it is quite possible to establish a distinction between the uterus and ovary in cases of ovarian disease. Or it might be possible that the direction taken by the sound would indicate the same fact.

Again, a careful examination per rectum and per vaginam will very often, even where the tumor is adherent, prove that there are two tumors; and their different density, or the comparative vividness of shocks communicated from the abdominal tumor, may justify the inference that one is the uterus and the other the ovary.

Lastly, the history of the disease may throw some light upon its nature. Uterine tumors are *generally* of slower growth, of smaller size, more dense to the touch, seldom attacked by inflammation, and rarely painful; and although none of these circumstances are conclusive alone, they may be very decisive in conjunction with other signs.

3. It may not be very difficult to come to a conclusion as to the existence of adhesions, though far from easy to estimate their extent. The mobility of the tumor, if it do not fill the entire abdomen, and the mobility of the integuments upon the tumor, will generally decide the question; but when the disease attains an enormous volume, we can do little more than form a conjecture. There is a sort of rolling feel when a tolerably free ovarian tumor is moved, and a crepitus when adhesion has occurred, which are not easily mistaken; and a change of posture may afford additional information.*

4. It is, of course, almost impossible to estimate the vascularity of an abdominal tumor. Occasionally we may distinguish with the finger the pulsation of an artery, and more than once I have ascertained the fact with the stethoscope. A careful examination should always be made with this instrument.

463. There are some conditions which are necessary to render the success of the operation even probable.

1. The patient must be in good health, for she is exposed to two great dangers—sinking and inflammation; and if her constitution be previously impaired, it would be needless to make the attempt.

2. There ought to be no adhesions between the enlarged ovary and the surface with which it is in contact. Mr. Jeafferson "considers it a 'sine qua non,' that the operation should be performed before adhesion takes place between the sac and adjacent viscera." It is clear that with such adhesions the operation might prove abortive: but

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* See a valuable notice on the Diagnosis of Ovarian Dropsy, by Mr. Brown, Surgical Diseases of Women, p. 191; and by Dr. Tilt, Prov. Med. and Surg. Journal, Aug. 18, 1852.

it is not always easy to ascertain whether they exist or not, previous to operating. "Adhesions of the cyst to the abdominal coverings are I believe, frequently indicated by soreness felt after moving the abdominal coverings over the cyst, and by a sort of crepitus, sometimes very distinct, arising probably from ruptured adhesive fibres." This crepitus is indicative of inflammation in serous membranes generally: it is present in certain stages of pleuritis, pericarditis, and peritonitis, and therefore is a sign of value in the present question.

3. The base of the tumor must not be too large, or the wound will be so extensive as to place the patient in danger.

4. It should not be attempted when scirrhus is combined with the dropsy, because there is every probability of the disease not being thoroughly removed, and because the constitution of the patient will have been contaminated by the malignant disease, and so be rendered less able to bear the operation.

464. As to the mode of operating—some prefer making a short incision through the abdominal parietes, evacuating the fluid, and then drawing the sac through the opening, apply a ligature round the root. Others make a large incision, 9 or 10 inches long at once, and then apply the ligature, and remove the tumor entire. The mortality of the major operation is much greater than that of the minor, and therefore it appears to me, that it is better to commence with the small incision, and, if necessary, afterwards enlarge it. The great advantage of this plan appears to be, that after making the incision (in some sort an exploratory one), if the sac, after being emptied, can be drawn out, we escape with the slighter risk; if there be obstacles, owing to solid matter, it can be enlarged without difficulty; and if these obstacles be such as to deter us from completing the operation, we can recede with much less danger to the patient; and this I think of vast importance, considering the present uncertainty of our diagnosis.

When the tumor is removed, the wound must be carefully closed by sutures and adhesive plaster. Over the wound the water dressing may be applied, and the utmost care and vigilance will be necessary to guard against collapse in the first instance, and inflammation afterwards.

I may conclude this chapter in the words of a distinguished author, from whom I have largely quoted already:—"Here then are the different modes of treatment recommended in ovarian dropsy; the abstraction of the water, with the cautions before prescribed; the extirpation of the ovary, in the earlier and latter periods of its growth; the removal of a circular piece of the cyst, so as to lay open the cyst into the peritoneum; and the prevention of the dilatation and growth, by early paracentesis. In the present ill success of our practice, all these operations are well worth your consideration; and if you can bring one of them to such perfection as to cure some of the unhappy individuals who now fall victims to the disease, you will, indeed, be conferring an invaluable good on the fairest and least offending part of our species."*

CHAPTER IV.

TUMORS (NOT MALIGNANT) OF THE OVARIES.

465. Fibrous tumors are found attached to, or imbedded in, the substance of the ovaries, as well as in the uterus, though they are far less analogous in structure with the former than with the latter. They are often coincident in both organs at the same time.†

In structure they are perfectly identical with those found in the uterus; so that, as Cruveilhier remarks, it is quite impossible to tell, by the most accurate anatomical examination, to which of the organs they have belonged. If cut into, they exhibit the same dense fibrous tissue, traversed irregularly in every direction by white shining lines. Dr. Baillie has described them very graphically: "The ovarium is much enlarged in size, and consists of a very solid substance, intersected by membranes which run in various directions. It resembles in its texture the tumors which grow from the outside of the uterus, and I believe has very little tendency to inflame or suppurate." They undergo also similar transformations into a cartilaginous and osseous structure, to a greater or less extent. In some we find only patches of cartilage, or spiculæ of calcareous matter; but cases are on record, of the greater part of the tumor being of a bony substance.‡ We may sometimes observe patches upon the surface of the ovary, of a cartilaginous or osseous density, owing to a morbid alteration of the proper fibrous tunic of the ovary beneath the peritoneum. The size of the tumors varies much; Cruveilheir says, from a few drachms to 30 or 40lbs.; but Boivin and Dugès are inclined to refer these large tumors to the class of scirrhus.§ There can be no doubt, however, that their increase is very gradual, much more so than any other morbid product of the ovary.

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* Blundell on Diseases of Women, p. 120.

† Seutin: Bull. Med. Belge, Nov. 1839, p. 307.

‡ Kluiskens: Annales de litt. med. etrang. tom. ix. p. 336. Saviard's Observ. Chir. Schlenk. Haller: Disp. Morb. vol. vi. p. 419.

§ Diseases of the Uterus, &c. p. 478.

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the ovary, consisting of tuberculous matter;[*] or of a darker sub
which is termed melanōsis. But, "scrofulous and tubercular
of the ovary is very rarely met with. It is the least comm
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467. *Symptoms.*—As these tumors do not degenerate into
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they are but rarely attacked by inflammation, they give rise t
but mechanical symptoms. While they remain in the cavity
pelvis, they may press upon the neck of the bladder or upon t
tum, and occasion much trouble by impeding the evacuation o
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If conception should take place without the elevation of the
serious impediment may be offered to the passage of the child t
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[*] Boivin and Dugès: Diseases of the Uterus, &c. p. 478.
pl. 16.

[†] Dr. Robert Lee: Cyclop. of Pract. Med.; art. Diseases
Ovaria.

CHAPTER V.

MALIGNANT DISEASE OF THE OVARIES.

470. SCIRRHUS, cancer, or fungus hematodes, is unquestionably the most serious disease to which the ovaries are exposed, and it is by no means very uncommon.* It is more frequent than cancer of the breast, and nearly as much so as cancer of the uterus. It does not appear so much confined to advanced age as the last named disease. Boivin and Dugès† say that it is most frequent during the middle period of female life; and Dr. Carswell found an ovarian tumor of a malignant character, as large as the gravid uterus, in the body of a female under twenty years of age.‡

There are at least two species of malignant disease observed in the ovary; one resembling *true scirrhus* before any softening has taken place, and the other analogous to *fungus hematodes* or *cerebriform* matter. "Cancer may be developed in the ovaries, and run through all its stages. Occasionally it is hard and scirrhous, acquiring double or triple its ordinary volume; in others it is a state of latent suppuration, terminating by ulceration. There form in the neighbourhood, dilatation of the veins, and a deposition of cartilaginous and osseous substance."§ "Of the two forms of disorganization mentioned, it is, I apprehend the *tuberose* which most frequently attacks the ovary; and therefore when this viscus is enlarged, frequently it is the bump or tuberose surface which characterises the disease. Sometimes, however, the scirrhous change is of the *diffused* kind, the whole mass of the ovary enlarging, and the surface remaining equable and smooth. The rapidity, also, with which the enlargement takes place, is liable to much variety; though if the disorganized ovary be composed of solid materials only, without dropsy, the growth will, I believe, be generally slow: it will certainly occupy months, and more frequently years."‖

471. The two forms, moreover, may co-exist, and they may either be primary or consecutive to a similar disease of the uterus.

1. *Scirrhus*. This tumor is hard, and pretty nearly homogeneous. Its surface is uneven and tuberose, and when cut into it presents the appearances which were described when treating of scirrhus uteri, and which, therefore, I need not repeat. It may remain some time in its

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* Coley: Ed. Med. and Surg. Journal, vol. vi. p. 50. Denman's Midwifery, p. 85. Campbell's Midwifery, p. 476.

† Diseases of the Uterus, &c. p. 484.

‡ Lee: Cyclop. of Pract. Med.; art. Diseases of Ovaria.

§ Nauche: Mal. prop. aux Femmes, vol. ii. p. 623.

‖ Blundell on Diseases of Women, p. 96.

465. In addition to tumors of a fibrous texture, we find others in the ovary, consisting of tuberculous matter;* or of a darker substance, which is termed melanōsis. But, "scrofulous and tubercular disease of the ovary is very rarely met with. It is the least common of all the morbid alterations of structure to which the human ovaria are liable."†

466. *Causes.*—These growths have been attributed to various causes; such as peculiarity of constitution, blows, falls, &c.; but in most cases we shall find it difficult, if not impossible, to trace the connexion.

467. *Symptoms.*—As these tumors do not degenerate into malignant disease, though they are sometimes concomitant with it, and as they are but rarely attacked by inflammation, they give rise to none but mechanical symptoms. While they remain in the cavity of the pelvis, they may press upon the neck of the bladder or upon the rectum, and occasion much trouble by impeding the evacuation of their contents. Numbness of one thigh and leg, and even œdema, may also result from the pressure upon the nerves and vessels.

If conception should take place without the elevation of the tumor, serious impediment may be offered to the passage of the child through the pelvis, necessitating either the removal of the tumor, (which is almost impossible) or, if it be large, the perforation of the child's head. When it is above the brim of the pelvis, it occasions no annoyance, nor does it interfere with the duration of the patient's life.

468. *Diagnosis.*—An examination 'per rectum' will convince us that the tumor (if it be not large) is in the ovary, and so distinguish it from a *fibrous tumor* of the uterus; besides, the elevation of the os uteri does not correspond with the results of abdominal manipulation.

From *scirrhous or cancerous tumor of the ovary* it will be distinguished by the good state of health of the patient, by the freedom from pain, and by its equal density.

469. *Treatment.*—We must apply ourselves to relieve the mechanical inconvenience, by catheterism and enemata, whilst the tumor is in the pelvis; and in some cases we can afford complete relief by pushing it up beyond the brim of the pelvis.

When in the cavity of the abdomen, no treatment will be necessary, unless in those very rare cases where the tumor is attacked by inflammation, and which will require the employment of antiphlogistics.

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* Boivin and Dugès: Diseases of the Uterus, &c. p. 478. Atlas, pl. 16.

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† Diseases of the Uterus, &c. p. 484.

‡ Lee: Cyclop. of Pract. Med.; art. Diseases of Ovaria.

§ Nauche: Mal. prop. aux Femmes, vol. ii. p. 623.

‖ Blundell on Diseases of Women, p. 96.

hard state, but ultimately central softening will take place. Dr. Baillie saw a case where softening had commenced, and the preparation is in the museum of the College of Physicians, London. The disease of the ovary was coincident with cancer of the stomach.

2. *Fungus hematodes or encephaloid.* The structure of this tumor is more varied than that of scirrhus, a part being often fibrous, cartilaginous, or calcareous, and the remainder fungus or brain-like, or with colored fluid contained in cells. Dr. Seymour has described two varieties. The first consists "of numerous cysts, with more or less fluid contents; sometimes with bony or earthy matter contained in them: often a fatty secretion resembling lard; sometimes penetrated with long fine hair, without bulbs; but more frequently filled with albuminous secretion of varying tenacity and color. Sometimes these secretions resemble gruel in appearance; there is often matter like soot mixed with the fluid. At other times the secretion is of the color of mahogany, from admixture of blood; and not unfrequently the liquor evacuated from one of these cysts by the trocar, resembles in consistence and color the medicine well known under the name of Griffith's mixture. Secondly, a single large cyst springs from the ovarium, and contains within it tumors varying from the size of a pin's head to that of an orange. Sometimes the great portion of the parietes of the cyst consists of tumors, growing between the external and internal or secreting coat; the interior of the cyst having the the tumors projected into it, being filled with fluid secreted from the serous lining. The tumors when cut into present a semi-fluid gelatinous substance, with white bands running through it, between which bands are smaller cysts containing the same viscid, glue-like matter."*

Andral observes: "Sometimes these masses are formed of fibrous, cartilaginous, or osseous tissue; in other cases they are almost entirely composed of encephaloid matter. The walls of the cysts are thick, and their cavities gradually enlarge until a tumor is formed, which fills not only the epigastrium, but the whole abdominal cavity. The outer surface of the tumor is unequal; in some points a fluctuation can be felt, while in others it has a hardness and density equal to bone."†

"Sometimes the ovarium is affected with encephaloid disease, or is converted into a large irregular-shaped mass of cysts and tumors, the section of which presents all the characters of hematoid fungus. This fatal affection usually runs its course with great rapidity, and soon after its commencement the constitution of the patient is much more affected than in the organic diseases of the ovaria which have already been described."‡

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* On Diseases of the Ovaria, p. 60.

† Precis. d'Anat. Pathol. vol. iii. p. 708.

‡ Lee: Cyclop. of Pract. Med.; art. Diseases of the Ovaria.

Cephaloma "is not often found in the ovarium. I have seen only one instance of it. In this, the whole of the uterus was a cephaloma; the ovarium about twice its natural size, and cephalomatous."*

If blood be effused, the tumor will answer to the description of hæmatoma given by Dr. Hooper. "Hæmatoma of the ovarium is of very rare occurrence. The drawing I have given of one is, however a very fine example of it. I have seen only two others, which were not so large; and I am disposed to think that when hæmatoma takes place in this organ, the ovarium soon after becomes hygromatous; and that as the cells enlarge, they compress and stop the fungus growth; for masses of flesh, mostly spongy, and of a mixed character, are frequently found in and about ovarian sacs." The tumor varies in size, being generally, however, larger than in pure scirrhus; in some cases it is very large, and of course as it increases, the cavities dilate, so that some fluctuation can be detected. The parietes vary very much in thickness. The rapidity with which it increases, is much greater in this than in the former variety. Either species may exist in a quiescent state for some time, or may be attacked by inflammation, abscess, or dropsy. As a consequence of inflammation, the diseased organ may contract adhesions, which may seriously affect the comfort of the patient, and the progress of the disease. If this take place whilst the tumor is in the pelvis, it cannot rise above the brim, and the mechanical symptoms will increase.

The deposition of cancerous matter in the ovary is very often accompanied by a similar state of other organs, as the pylorous, lymphatic glands, &c.† Cruveilhier mentions a case where it was coincident with a cancerous state of the stomach;‡ and such a case occurred to Dr. Baillie, as has already been mentioned.

472. *Causes.*—These are extremely obscure; there may be occasionally some connection with gestation; but as it is found even more frequently in virgins, this cannot be considered as an exclusive cause.

It may follow chronic inflammation, according to Boivin and Dugès, though Logger does not admit this. Capuron attributes it to abortion, or the suppression of the lochia. It has been known to follow external violence—such as a fall, a blow, &c.

473. *Symptoms.*—If the disease be confined to one ovary, menstruation may continue regularly, but it will be suppressed if both organs are involved. Instances are on record of conception having taken place after the development of malignant disease in one ovary; and in such cases, danger may be incurred during delivery, if the enlarged

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* Hooper's Morbid Anatomy of the Human Uterus, p. 16.

† Seymour on Diseases of the Ovaria, p. 61. Case, p. 76.

‡ Anat. Path. 5me livr.

viscus have not ascended into the abdomen.* As I have already observed in the case of other ovarian tumors, the symptoms differ much, according as they occupy the pelvis or the abdomen. In the former case they are chiefly mechanical, and arise from the pressure exercised upon the rectum or neck of the bladder, with numbness along the limbs from pressure upon the nerves.

But few symptoms originate in the state of the tumor itself, until it rises into the abdomen, or until softening takes place, unless, indeed, it be previously attacked by inflammation: the symptoms will then assume an acute character. After this period it is undoubtedly true, as Dr. Seymour observes, "that these diseases frequently lead to a rapidly fatal termination, and accompanied by that extreme sense of debility, and bloodless appearance of the body, so characteristic of malignant disease."† Again: "The malignant form of the disease may be recognised, during life, by the want of nutrition, the broken health of the patient, the uneasiness and rapid growth of the tumor, the simultaneous enlargement of glands in other parts of the body, and the occasional occurrence of lancinating pains in the parts. The latter symptom is not constant. The pulse is quick and feeble, and as the disease proceeds, there is hectic fever, and often aphthæ in the mouth, with an inexpressible sense of debility."

The vicinity of the diseased mass may give rise to increased action in the peritoneal membrane, and effusion into the abdominal cavity.

The interval which elapses before the development of the constitutional symptoms varies very much; but sooner or later fever sets in, with thirst, quick pulse, wasting, &c. and ultimately carries off the patient, unless an earlier termination be occasioned by softening of the tumor, and evacuation of its contents into the peritoneum. The following cases illustrate the course of the disease perfectly. "Mad. B., small and thin, yet of general good health, had a return of the uterine discharge, in her 72nd year. This discharge was one day so abundant as to induce syncope and extreme debility. I was consulted in Dec. 1831, and discovered, on examination, that the cause of the hemorrhages was not, properly speaking, in the uterus, but in its vicinity; between that organ and the bladder there was a very voluminous, hard, indolent tumor, which pushed the uterus backwards, compressed and irritated it: this was, doubtless, the cause of the hemorrhage. The uterus was rather tender, and its cervix widely open. The tumor could be felt, and its progress traced above, or rather behind, the pubes. Eighteen months afterwards the patient complained of pains in the abdomen, dyspepsia, &c. On a second examination, I discovered that the tumor was no longer in the pelvis, but entirely in the abdomen, on a level with the umbilicus, and near the right iliac fossa; it appeared to be at least as large as the fœtal head, and of a globular form. I considered these changes favorable, as the uterus was less irritated than before, and the hemorrhages were less frequent, and in smaller quantities; but in other respects I was disappointed, for the tumor, which had so increased in volume, and changed in form as to rise above the brim, caused uneasiness to the other abdominal viscera: the abdomen rapidly became more tender and tumified, the legs swelled, the strength diminished, &c. Dr. Cassio observed there was ascites, produced by the scirrhous congestion of the right ovarium: I thought it yet possible to check the progress of the chronic peritonitis with which it was evidently complicated, as was proved by fever, thirst, and tenderness of the abdomen. The advanced age of the patient forbad the use of powerful antiphlogistics; we therefore prescribed the hip bath, cataplasms, enemata, and a reduced diet. This treatment only arrested for a short time the fatal termination of the disease."[*]

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* Mr. Hewlett's case, Med. Chir. Trans. vol. xvii.

† On Diseases of the Ovaria, p. 62.

"About five years ago we examined, with Dr. Merriman and Mr. Prout, the body of a woman about 30 years of age, who had died from malignant disease of the right ovarium a few days after parturition. In the fourth month of pregnancy she began to suffer from a constant sense of uneasiness in the hypogastrium, and irritability of the stomach; the countenance became sallow, and the constitutional powers greatly reduced. The abdomen not long after began rapidly to enlarge, and before the end of the seventh month, it had attained the size it usually acquires at the full period of pregnancy. An enormous cyst, which contained a dark-coloured gelatinous fluid was found on dissection adhering to the right ovarium, and within this cyst were observed a number of tumors of different sizes and shades of color, which when opened, presented the true encephaloid or hematoid fungus character."[‡]

The softened substance has been known to escape through the opening into the intestines, bladder, vagina, &c.

A *vaginal* examination will detect the enlarged ovary so long as it remains in the pelvis, and afterwards abdominal manipulation will generally clear away the chief difficulty: we may either find the tumor above the brim in one of the iliac fossæ, about the size of a fœtal head, or occupying the lower portion of the abdomen, but inclining rather to one side. Its surface is felt to be tuberose, and its structure dense and unyielding. The upper part of the abdomen, on the contrary, will be soft, and occupied by the intestines.

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[*] Boivin and Dugès: Diseases of the Uterus, &c. p. 484.

[†] Lee: Cyclop. of Pract. Med.; art. Diseases of the Ovaria.

474. *Diagnosis.*—It will not do to rely too strongly upon the presence of a tumor near one ilium, as that may arise from a collection of fœcal matter in the cæcum:* so long as the tumor is quiescent, it will be difficult to distinguish between one that is malignant in its nature and one that is not.

1. From *ovarian dropsy*, both scirrhus and encephaloid may be distinguished by their greater hardness and compactness, by the absence of fluctuation generally, and by their lobulated tuberose surface.

2. From *pregnancy*, by the hard lobulated surface, and by the absence of the audible signs of pregnancy.

3. From *fibrous tumors of the uterus*, by the greater size which malignant tumors generally attain; by their not being pediculated, but more moveable, at least during the early stages; and in an advanced stage, by the lancinating pain, and constitutional distress.

4. It has been mistaken for *disease of the spleen*, when very large, but an investigation of the history of the case, with careful abdominal manipulation, and an examination *per vaginam*, will clear up all doubt.

5. The distinction between the *two forms of malignant disease* may in some cases be desirable, for inasmuch as one is the early, and the other the more advanced stage, the patient's prospects of life are longer with scirrhus than with fungoid disease. Now these are the chief differences. Scirrhus is of a slow growth, giving rise to mechanical symptoms, and perhaps to a disturbance or irregularity of the catamenia, but to no pain or constitutional suffering. Encephaloid disease or fungus hematodes, on the contrary, increases rather rapidly, is more painful and tender, gives rise to fever, emaciation, and other constitutional symptoms. Dr. Seymour observes very justly, that the co-existence of fungoid or cancerous disease of the breasts, pylorus, or cervix uteri, will elucidate completely the nature of the ovarian affection.

475. *Treatment.*—If the tumor occasion distress in the pelvis, we may (as I have observed) obtain some relief by pushing it above the brim.

Active medicines are exceedingly injurious, as they rouse into action parts which it is our object to keep quiet. Iodine has been tried, but it is rather from its general effects than from its success in this disease that a further trial is recommended. Dr. Seymour remarks of this medicine: "Many cases have been published of its success, where too short a time has elapsed since the apparent diminution of the tumor to allow of any accurate conclusion being drawn; and on the whole, I am inclined to think that its efficacy has been greatly overrated. Iodine is an active stimulant, and appears to me only applicable in those diseases of the ovarium, or such states of them, as are unaccompanied by inflammation." In truth, we possess no power of controlling the disease: all we can do in the advanced stage, is to avoid all irritating causes, and to afford relief from the pain by narcotics. As for excision, which has been proposed, it could never be advisable, for at the advanced period at which alone so formidable an operation would be justifiable, the patient's whole constitution is contaminated by the cancerous diathesis.

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* "We have met with the case of a young person, habitually constipated, so as to occasion heat and pain in the large intestines; a physician declared that one of the ovaria was enlarged, in consequence of a tumor which was felt on examination; this tumor disappeared and reappeared alternately—events probably owing to fæcal masses accumulated in the cæcum, and then passed further down in the intestines, or evacuated."—*Boivin and Dugès: Diseases of the Uterus, &c.* p. 481.

CHAPTER VI.

DISPLACEMENTS OF THE OVARY.*

476. THE displacements to which the ovary is obnoxious are not generally of much consequence, the more frequent kind being merely accompaniments or consequences of disease or displacement of the uterus, and so surpassed by a greater evil; and the more serious ones being ordinarily congenital.

477. We may divide them into two classes: those in which the ovary remains within the pelvic cavity, and those where it escapes externally.

1. Any change which augments the weight of the organ will depress it below its natural level in the pelvis; such, for instance, as congestion, encysted dropsy, hydatids or tumors of the ovarium; and, on the other hand, if the bulk of these adventitious deposits be much augmented, so as to raise the organ from the pelvis into the cavity of the abdomen, then the ovary will be elevated above its natural level. This is the case also in pregnancy. The symptoms of the former are merely mechanical, and have been already described. They disappear when the tumor rises above the brim of the pelvis, and this mitigation

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* The reader is referred to the excellent 'Memoir' of M. Deneux on the Displacements of the Ovary.

we may often obtain by art. A different class of secondary displacements results from deviations from the normal situation of the uterus. Anteversion and retroversion both disturb the natural situation of the ovary, but this is much more remarkable in prolapse and inversion of the womb. In the latter case, they often fall into the sac formed by the inverted organ. Dr. Rigby has described the displacement connected with retroversion, which is marked, he says, by sickening pain in the sacral region, by severe suffering when the bowels are moved, or when the womb is pressed towards the affected side, or when the finger, *per rectum*, reaches the affected organ.* I have already said that these are generally temporary displacements, but occasionally, whilst displaced, the ovaria form adhesions to the neighbouring viscera, and so are retained permanently in their abnormal situation.† All the treatment which can be adopted in these cases (when any is necessary), has already been fully described when considering the several diseases which act as causes.

2. When the ovary escapes out of the pelvis, it forms a proper hernia of the organ. It is not of very frequent occurrence. The ovary may be displaced in hernia of the uterus, or it may form a hernia itself, alone, or with its fallopian tube, and sometimes a portion of intestine. It may be either healthy or diseased, but there is generally some congestion. It has escaped through the umbilical ring,‡ through the ischiatic notch,§ through the crural arch, but more frequently than all, through one or both inguinal rings. Deneux considers the latter cases as always congenital, and Cruveilhier has seen it very often in old women. The following is Mr. Pott's case:—"A healthy young woman of twenty-three years of age was taken into Bartholomew's Hospital, on account of two small swellings, one in each groin, which for some months had been so painful that she could not do her work as a servant. The tumors were perfectly free from inflammation, were soft, unequal in their surface, very moveable, and lay just on the outside of the tendinous opening in each of the oblique muscles, through which they seemed to have passed. The woman was in full health, large breasted, stout, and menstruated regularly; had no obstruction to the discharge per anum, nor any complaint but what arose from the uneasiness these tumors gave her, when she stooped or moved so as to press them. She was the patient of Mr. Nourse. He let her blood, and took all possible pains to return the parts through which they had clearly passed out. He found all his attempts fruitless, as did also Mr. Sainthill and myself; and the woman being incapacitated from getting her bread, and desirous to submit to any

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* Med. Times, July 6, 1850.

† Cruveilhier: Nouv. Dict. de Med. et de Chir. prat.; art. Ovaire.

‡ Portal: Anat. Med. vol. v. p. 556.

§ Camper de Pelvi, lib. 2, cap. 2, p. 17.

thing for relief, it was agreed to remove them. The skin and adipose membrane having been divided, a fine membranous bag came into view, in which was a body so exactly resembling a human ovarium, that it was impossible to take it for anything else. A ligature was made on it, close to the tendon, and it was cut off. The same operation was done on the other side, and the appearance, both at the time of operating and in the examination of the parts removed, was exactly the same. The young woman has enjoyed good health ever since, but is become thinner and apparently more muscular; her breasts, which were large, are gone; nor has she ever menstruated since the operation, which is now some years."*

Occasionally, the ovary descends into one of the labia majora, and bears a strong resemblance to the testicle in the scrotum.

Lastly, the ovary has escaped through an opening into an abscess of the abdominal parietes.

Sometimes ovarian inguinal hernia gives rise to considerable distress; the patient complains of pain and a dragging sensation, increased much upon walking. If we examine about the inguinal ring, we shall find a small tumor underneath the skin, like a gland, which does not give rise to any change of color in the skin. When touched, the pain is much worse, and seems prolonged to the uterus. It is rarely reducible.

478. The *diagnosis* of the first and second varieties must essentially depend upon a vaginal and rectal examination—in short, by finding the ovary out of its normal situation. Of ovarian hernia, it has been said, "the *diagnosis* of this affection will probably be indistinct, particularly in cases of tumefaction, inflammation, morbid structure, and adhesion. The ovarium retaining its usual form, consistence, volume, and mobility, and situated in front of the inguinal ring, would, on the contrary, be with difficulty mistaken in the present day, especially in thin persons. Congestion of the inguinal glands never occurs in this situation, but rather towards the middle of the groin; and the glands sooner become fixed. Ovarian hernia is characterized and distinguished from enterocele and epiplocele, by draggings in the hypogastrium and loins, when the patient moves; and by the absence of borborygmi, colic pains, and draggings of the stomach. According to Lassus, one of the most distinctive signs is the correspondence of the movements impressed upon the uterus, by the finger introduced into the vagina or rectum, with those which are felt in the tumor itself by the patient or the practitioner."† Perhaps some assistance might be derived from the monthly increase af the tumor, arising from the enlargement which we know takes place in the ovaries at each catamenial period.

479. *Treatment.*—An attempt of course must be made to reduce

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* Pott's Works, 3rd edit. vol. v. p. 184.

† Boivin and Dugès: Diseases of the Uterus, &c. p. 454.

the hernia, though it will often fail. If so, and if there be sym
of strangulation, we must have recourse to the operation for str
lated hernia, and after relieving the structure we may return the
into the abdomen, and apply a compress and bandage, or conten
selves with the relief of the strangulation, without interfering wi
displacement.

In irreducible cases, we have still the power of removing the
altogether, as was done by Mr. Pott.

BOOK II.

DISEASES OF PREGNANCY.

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DISEASES OF PREGNANCY.

480. The investigation of the disorders and diseases of pregnancy upon which we are about to enter, will be much facilitated if we first consider, very briefly, some of the local changes and constitutional sympathies which are the result of conception and utero-gestation: to which may be added some general instructions as to the management of pregnant females.

CHAPTER I.

ON THE LOCAL AND CONSTITUTIONAL CONSEQUENCES OF PREGNANCY.

481. "It is a popular observation," says Dr. Denman, "that those women are less subject to abortion, and ultimately fare better, who have such symptoms as generally attend pregnancy, than those who are exempt from them. The state of pregnancy is then an *altered*, but cannot with propriety be termed a *morbid* state. But if the term *disease* be used on this occasion, with the intention of giving a more intelligible explanation of the temporary complaints to which women are then liable, or to denote their irregularity, or an excessive degree of them, it may be retained."* Pregnancy, then, may be considered as a strictly physiological state, but as one bordering so closely upon the pathological, that it is sometimes difficult to point out the boundary between them; and not unfrequently this boundary is palpably transgressed in several organs or their functions.

In the present chapter, the changes which are induced by gestation, considered as an "altered" but not "morbid" process, will be enumerated, in order that we may more distinctly appreciate the diseased actions which occasionally require our interference. For this purpose, let us first glance at the anatomical changes which occur in the ovaries, fallopian tubes, &c.

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* Introduction to Midwifery, p. 144, 7th edit.

482. The structure of the *uterus*, in its quiescent state so cl firm, becomes loosened; its interlacing fibres being separated, rous interspaces are left, some of them of very considerable si mainly occupied by the enlarged vessels and nerves. Some affirm, and I believe with truth, that an addition of new matte place in the substance of the womb during gestation, and out, as a proof, the immensely increased size of the womb a augmented thickness of its parietes. Others deny this suppose tion or hypertrophy, and explain the apparently increased sub and actually increased bulk of the uterus, by referring to the laxity of its tissue during pregnancy.

An equally remarkable change takes place in the *vessels* uterus. Before conception, just so many transmitted red blo were visible, as sufficed for its nutrition and for its periodical sec but, during pregnancy, these vessels increase to many time original size; and vessels into which red blood had never pre penetrated, now enlarge, and carry red blood for the nutrition fœtus. The intervals between the uterine fibres are occupied enlarged vessels, which, from their magnitude at the part to wh placenta is attached, are called sinuses. This augmentation vascular machinery of course implies either a local or general i of circulating fluid, or both.

The *nerves* supplying the uterus likewise become hypertr according to the researches of Hunter,[*] Tiedemann,[†] and Le this is the more remarkable, as it arises not in any degree from sion, (as in the case of the vessels), but is an absolute increase stance in each nerve.

The *lymphatics*, which can scarcely be detected in the virgin undergo a similar development, and form a remarkable portion vascular net-work supplying and surrounding the uterine system. we find exhibited most plainly in some diseases.

From the moment of conception until nearly the termina pregnancy, the womb goes on increasing in size; distended it the accumulating liquor amnii, it distends in its turn the abd parietes almost as much as they will bear, ascending gradually t the epigastrium in front of and rather below the intestines, whi in a great measure displaced and pushed up by it. The propo increase has been minutely estimated. "The virgin uterus," o Dr. Montgomery, "is about two and one-fourth inches long, o three-fourths broad, and about an inch from back to front, cavity which would not more than receive into it the kernel of an almond. According to the calculations of Levret, its superficies may be taken at 16 inches, but at the end of the ninth month of gestation its length is from 12 to 14 inches, its breadth from 9 to 10, and from back to front from 8 to 9 inches; its superficies is now estimated at about 339 inches, and its cavity, which before impregnation was equivalent to about $\frac{11}{14}$ths, or *quam proximè*, three quarters of a cubic inch, will now contain 480; so that its capacity is increased a little more than 519 times, and its solid substance from $4\frac{1}{3}$ to 51 cubic inches, or nearly in the ratio of 12 to 1."*

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[*] Anatomy of the Gravid Uterus, p. 21.

[†] Tabulæ et Nervorum Uteri Descriptio, p. 10.

[‡] On the Nerves of the Uterus.

Conception, and the transmission of the germ, leave the *ovary* which furnished the germ and the corresponding *fallopian tube* considerably more vascular than usual, and in the former is discovered the corpus luteum and the cicatrix of the laceration through which the ovulum escaped.

483. Considering these various and great changes, it cannot be a matter of surprise that irregularities of innervation should occur; that disturbances of the circulation, inflammation, and its products should take place; or that the fibres of the uterus, extricated and endowed with additional sensibility, should manifest irregular action. These vast anatomical changes are concomitant with the development of certain physiological phenomena, of which they may be considered the instruments or agents; and it is by bearing both in mind, and in a sense combining them, that we are able, to some extent, to estimate the predisposition to morbid action. That the uterus thus endowed with great nervous power and vascular capacity, and becoming the seat and centre of a higher degree of irritability, "should take on new actions, some of which may be in excess, is not surprising."† That it should thus assume a new pathological condition we might therefore expect; but this is not all. Dr. Denman observes that "the truth of no observation in medicine has been more generally acknowledged, than that of the extreme irritability of the uterus, and of the propensity which the whole body has to be affected or disturbed by its influence;" and again, Dr. Ashwell, that "the law of sympathy is one of universal prevalence, and the uterus may be fairly considered the great centre of this influence in the female system. We have already seen that the perfect development of the uterus, or the establishment of that function which capacitates it for conception, is attended by many remarkable consequences, and in pregnancy these effects are not less astonishing: there is scarcely any part or viscus, there is scarcely any action throughout the whole system, which is not influenced in a greater or less degree by impregnation."‡

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* Signs of Pregnancy, pp. 2, 3.

† Capuron: Traitè des Mal. des Femmes, p. 335.

‡ Practical Treatise on Parturition, p. 161.

The effect of this sympathy is shown both in the *general state* of the body, and in the altered conditions of *individual organs.*

The general state is said to be one of plethora, and the woman is considered to suffer from a degree of febrile action. This view is supported by the increased vascular machinery, the augmentation of the circulating fluid by the (supposed) effects of the suppressed menstruation;* by the buffed state of the blood when drawn during pregnancy in the absence of inflammation, according to Denman,† Burns,‡ Rasori,§ Maunsell,‖ and others; and by the greater frequency of the pulse in pregnant women.¶ Some of these reasons are doubtful as matters of fact; others may be true, but the observations have not been sufficiently numerous to be quite satisfactory; and a third series are established facts. But however hazardous it might be to found any general views of practice upon such statements, there can be no difficulty in appreciating their value in forming our estimate of the predisposition to disease occasioned by gestation. We have now seen the influence which the anatomical changes in the uterine system, and the general sympathy with the gravid uterus, may possibly have in predisposing to disordered action; it only remains to examine into the effects of the same cause upon individual organs, and upon the mind, and the subject of this chapter will be completed.

484. The different organs of the body may be affected either *mechanically*, or by *sympathetic* (*reflex*) *irritation*, or in both ways at the same time. The rectum, urethra, and neck of the bladder are subjected to a considerable amount of pressure, whilst the enlarged uterus remains in the cavity of the pelvis; but these hollow organs may be compressed without injury, and therefore we are not very often consulted, unless (from sympathetic irritation) diarrhœa, dysentery, or a very frequent and distressing desire to pass water, be excited. The latter complaint is most frequent about the third or fourth month. Again, a sensation of weight in the pelvis, of bearing down, or of "falling through," with more or less aching in the back and down the thighs, is a frequent concomitant of pregnancy; and should sudden and violent expulsive force (accidentally or purposely) be employed, flexion or depression of the womb may be the result. When the uterus rises above the brim of the pelvis, the pressure is removed from the lower portion of the intestinal canal, and transferred to the contents of the abdominal cavity. The uterus lies over, as it were, upon the bladder,

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* Davis's Obstetric Med. 2d part, p. 858.

† Introduction to Midwifery, p. 220.

‡ Principles of Midwifery, p. 246.

§ Teoria della Flogosi, p. 39.

‖ Report of Wellesley Dispensary, Ed. Med. and Surg. Journal, No. 117.

¶ Montgomery's Signs and Symptoms of Pregnancy, p. 9.

diminishing its capacity, and giving rise to a desire to evacuate its contents frequently, or even to incontinence of urine. Further—"When the uterus has acquired its full growth, it occupies a very large space in the abdominal cavity, pressing both the liver and stomach upwards against the diaphragm, by which the cavity of the chest is diminished, the action of the lungs impeded, and a greater or less degree of dyspnœa induced; while, at the same time, the passage of the bile into the duodenum is interfered with, and slight jaundice makes its appearance; or considerable disorder of the stomach, with very imperfect digestion, renders the patient very uncomfortable."*

More or less influence is produced upon the circulation in the lower extremities, from the impediment offered to the ascending column of blood by the pressure of the lower portion of the uterus, giving rise sometimes to varicose veins, sometimes to œdema. Another apparent consequence of this pressure is a bluish tint of the mucous membrane of vagina and vulva, which is proposed by D'Outrepont and Jacquemier as one of the surest tests of pregnancy. In more than one case which I had an opportunity of minutely examining, it was evidently caused by a distended or varicose condition of the minute veins of the part.

Occasionally the skin of the abdomen is painfully stretched, either from its want of elasticity, or from the unusual size of the uterus, or from the intestines being inflated, or from fluid infused into the peritoneal cavity. On the other hand, after repeated childbearing, the relaxation of the abdominal parietes exposes the patient to some inconvenience by its permitting the uterus to fall forwards.

485. The amount of *sympathetic irritation* excited in different organs is generally in proportion to the change which occurs in the organ exciting it: in the present case, in proportion to the difference between the quiescent and impregnated womb, modified by the temperament of the individual. At a very early period, the peculiar reflex irritation of the stomach is excited, and "morning sickness," as it is called, sets in and continues for a short time. It may continue longer, occur at some other period of the day or night, or recur at a later period of gestation; but it will generally be found that when this earliest symptom of pregnancy deviates from the ordinary course, it is followed by other deviations or inconveniences. It is one of the most marked of the reflex irritations of pregnancy, and is explicable only by the view of the nervous system originated by Dr. Marshall Hall. To the same reflex irritation, and to a certain degree of mechanical pressure, we may attribute the constipation or diarrhœa which occur or alternate during the latter months of pregnancy.

486. A very remarkable change takes place in the urine of pregnant

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* Montgomery on Signs of Pregnancy, p. 6.

women; it contains a principle which I believe was first accurately described by M. Nauche, and which has since received the name of *kiesteine.* It was supposed by Nauche to be the caseum of the milk secreted during gestation. At present this is merely an hypothesis. It resembles a milky cloudiness through the urine, or a thin whitish pellicle on the top; though this is obscured in proportion as the urine is deep-colored. M. Eguisier has given us the result of his observations: "The urine of a pregnant woman, examined in the morning, is generally of a pale, yellow color, slightly milky; it first reddens, and then turns blue the "papier tournesol," as ordinary urine. Exposed to the contact of air, a cloudiness is observed from the first day, resembling fine wool; from the first day, also, a floccy white matter is deposited. These phenomena are not, however, constant. From the second to the sixth day, small opaque bodies are seen rising from the bottom to the surface of the fluid, and then collecting together until they form a layer, covering the whole surface—this is kiesteine. It is sufficiently consistent to be raised from off the fluid. It is whitish, opaline, slightly granular, and resembles very much the layer of fat which swims on the surface of fat broth when cooled. Examined by the microscope, it appears a gelatinous mass of indeterminate form. When it is old, cubical crystals are sometimes detected." No animalcules could be discovered by M. Eguisier. "Kiesteine persists thus for three or four days; then the urine becomes troubled, small portions are detached from the surface, and sink to the bottom, until the layer is entirely broken up." "Kiesteine appears to exist in the urine from the first month until the period of delivery." "We have found it after 24 hours—rarely so late as the 60th day."* Dr. Montgomery remarks, as to his observations: "In some instance no opinion could be formed as to whether the peculiar deposit existed or not, on account of the deep color and turbid condition of the urine: but in the cases in which the fluid was clear, and pregnancy existing, the peculiar deposit was observed in every instance. Its appearance would be best described by saying, that it looks as if a little milk had been thrown into the urine, and having sunk through it, had partly reached the bottom, while a part remained suspended and floating through the lower part of the fluid, in the form of a whitish semi-transparent filmy cloud.† Dr. E. K. Kane, of Philadelphia, has arrived at the following conclusions: "1. That kiesteine is not peculiar to pregnancy, but may occur whenever the lacteal elements are secreted, without a free discharge at the mammæ. 2. That though sometimes obscurely developed, and occasionally simulated by pellicles, it is generally distinguishable from all others. 3. That when pregnancy is possible, the exhibition of a clearly defined kiesteine pellicle is one of the least equivocal proofs of that condition. 4. That when this pellicle is not found in the more advanced stages of supposed pregnancy, the probabilities, if the female be otherwise healthy, are as 20 to 1 (81 to 4) that the diagnosis is incorrect."*

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* Lancette Française, Feb 1839, p. 36.

† Signs of Pregnancy, p. 157.

More recently the attention of the profession has been called to a "new substance said to be deposited by the urine during pregnancy, and which is proposed as an additional test of that condition. The following account appears in *Braithwaite's Retrospect:* "The fluid portion of the urine of pregnant women being drawn off, there appears a natural sediment, "which, whether held in solution or separated by ether, has a striking resemblance to the serous globules, but when in a sedimentary state, bears an equally strong resemblance to the milk globule in recent milk. This substance differs from albumen and caseum, the two animal substances most analogous to it; from the former, in being soluble in water by means of heat; from the latter, in being soluble by sulphuric and nitric acids. From gelatine it also differs, first, in being precipitated from its solution in water on cooling; secondly, though partially precipitated by tannin, the precipitate was soluble in water on cooling. The author (Dr. Stark) calls it 'gravidine,' both from *gravidus*, 'big with young,' 'occuring in pregnant women;' and also from *gravis*, 'heavy,' seeing that it falls to the bottom of the vessel. Kiesteine is but the pellicle which results from the decomposition of gravidine. As the globules forming the latter substance are decomposed, urates and purpurates are developed in the urine; and when these have broken up and assumed new combinations, the triple phosphates appear, with that beautiful crystalline appearance described by Dr. Bird as one of the characteristics of kiesteine."

It is not necessary here to enter upon any detailed account of the intimate sympathy between the uterus and breasts; or the development of the areolæ, and of the sebaceous, and mammary glands, consequent upon impregnation. In another work I have given a full description of it.† I shall merely notice it as invariable and as being sometimes excessive and requiring treatment.

487. So remarkable a local development of nervous organization is naturally attended with a general excitation of nervous energy, or an increase of irritability in the nervous system as a whole.‡ This would,

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* American Journal of Medical Sciences, No. 8, New Series.

† Theory and Practice of Midwifery, p. 129.

‡ "When speaking of the physical changes which the uterine system undergoes in consequence of impregnation, it was remarked that the nerves distributed to that organ and its appendages, were augmented in size and number, and having their sensibility exalted, diffused through the system generally an increase of nervous irritability, which

of course, render the patient obnoxious to nervous disorders; but it especially exposes her to the agency of external and noxious impressions and of mental emotions. A striking illustration of this fact was communicated to M. Perry by MM. Schmid and Mesnard, who were in charge of the military Hospital at Landau when the arsenal at that place was blown up. He mentions in the article '*Detonation*,' in the *Dict. des Sciences Medicales*, "That among 92 children born at Landau within a few months of the accident, eight were nearly idiotic, and died before they were five years old; 33 lived till their 8th or 10th year, but were very delicate; 16 died at birth, and 22 came into the world with numerous fractures of the long bones."*

488. But this subject—I mean the connexion of the active state of the uterus and ovaries with the mental condition—deserves a little longer notice. And first let me just remark the sudden mental and moral development which takes place when puberty is established, and which is familiar to every one. Now from this increased susceptibility of the nervous system, this mental sensitiveness, the step to a morbid excess of it is but slight, and we may easily trace the gradations.† And this peculiar condition is kept up by continued menstruation,‡ increased during each period§, or aggravated into insanity by the sudden suppression.‖ I have seen several instances of this kind, and the authors to whom I have referred allude to such as of no unfrequent occurrence. This interdependance of the mind and the uterine function is, however, more remarkably exhibited during the next great development in the female economy. The sensibilities expanded by puberty are heightened during pregnancy, and not unfrequently more or less disturbed. The increase of local organic action is accompanied, as I have said, by general nervous irritability, which shows itself in various modes, and in different degrees. Few women are quite as self-possessed, or in as even spirits during pregnancy, as at other times; little things annoy them, trifles depress them; or it may be that they are just as inordinately excited, dis-

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displays itself under a great variety of forms and circumstances, rendering the female much more excitable, and more easily affected by external agencies, more especially those which suddenly produce strong mental or moral emotions, whether of the exhilirating or depressing kind, as fear, joy, sorrow, anger."—*Montgomery on Signs of Pregnancy*, p. 12.

* Gardien: Traitè des Accouch. vol. ii. p. 17.

† Laycock on Nervous Diseases of Women, p. 551.

‡ Haslam on Madness and Melancholy, pp. 215, 232.

§ Spurzheim on Insanity, p. 162. Burrowes' Comment. on Insanity, p. 146.

‖ Pritchard on Insanity, p. 207.

playing a degree of caprice or levity foreign to their character. Sometimes the most sweet-tempered become irritable, cross, and quarrelsome. The husband of a patient of mine, whose wife was remarkably good tempered and attached to him, told me that the earliest symptom of pregnancy in her case was a disposition to quarrel with him especially. Dr. Montgomery mentions the case of a lady who, for the first two or three months of her pregnancy, was so irritable, that "to use her own words, she was a perfect nuisance in the house." He also relates one of an opposite character; "a gentleman lately informed me, that being afflicted with a step-mother naturally more disposed to practice the *fortiter in re*, than to adopt the *suaviter in modo*, he and all the household had learned from experience to hail with joyful anticipations the lady's pregnancy as a period when clouds and storms were immediately exchanged for sunshine and quietness."*

Dr. Lever relates the case of a lady who was two months pregnant, and who from having been the life of the household, light-hearted and gay, now sat wherever she was placed, neither turning her head nor her eyes to one side or the other: she was a living automaton; her movements were automatic; there was life, it is true, but there was no mind; her chiselled face seemed cut in alabaster." She recovered after her confinement.† Dr. Burrowes observes that "whenever mental disturbance occurs during pregnancy, it partakes oftener of an idiopathic character, either in the form of mania or melancholia, than of the delirium which succeeds parturition." "I have seen," he adds, "two cases where hysterical symptoms attended during pregnancy, and the patient almost immediately after delivery became insane."‡

489. It is very natural that with a known, still more with an unknown amount of suffering before them, and with a certain but unknown amount of danger connected with the termination of pregnancy, women should occasionally at least be subject to depression of spirits, and should take a gloomy view of their prospects. With the majority this state of mind is only occasional, or is dissipated as gestation advances: but it is not always so; with some it increases, and they constantly and steadily anticipate evil, and are either deeply distressed or apathetically despairing. As Dr. Montgomery has observed, this state of mind is often accompanied or caused by bodily derangements: the stomach and bowels are out of order; the patient complains of headache and nausea, with a foul tongue, quick pulse, and a bilious tinge of the skin. Proper treatment will generally relieve both the bodily disorder and mental affection in these cases. "Sometimes this state appears to depend upon some peculiar condition of the brain, the

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* Signs of Pregnancy, pp. 18, 19.

† Guy's Hosp. Reports, 2nd Series, vol. v. p. 22.

‡ Commentaries on Insanity, p. 464.

nature of which we probably cannot appreciate, and which our treatment will but too often fail to correct: in one strongly-marked instance of this kind which was some time ago under my care, the lady became maniacal on the fifth day after delivery, and continued deranged for many months."* A similar case is related by Dr. Haslam.† Some years ago I attended a lady of her first child. She had nursed a relative who died of hemorhage during her confinement. This made a deep and fearful impression upon her mind, and from the moment she found herself pregnant, she had settled that she also should die of hemorrhage in her confinement: she had reconciled her mind to it; dismissed all doubts, and, I may add, all fears also, and regarding it as certain, she arranged all her affairs and her household, so as to give her husband as little trouble in his affliction as possible; and then when labor commenced she watched every pain for the final issue, exclaiming, "Now, the hemorrhage!" The labour terminated favourably however; but previous to this consummation her fears had completely overmastered her reason, and she became delirious for about an hour, after which she recovered.

490. But these irregularities of temper and temporary depressions of spirits are but a step towards more serious mental derangement. In more susceptible females, the mind is occasionally completely thrown off its balance, and the patient becomes partially or wholly insane. Esquirol mentions the case of a young woman of a sensitive habit, who had an attack of madness in two successive pregnancies, commencing immediately after conception, and lasting fifteen days. Several women at La Salpetriere, were there for insanity connected with pregnancy. Dr. Montgomery states that he knew a lady who was attacked with insanity in eight successive pregnancies; and another who was similarly affected three times soon after conception, and remained so until within a short time after labor, when she became sane, and continued so until the next pregnancy.

On the other hand, pregnancy occasionally relieves mental derangement. Goubelly gives a remarkable case of a lady who was of sound mind only during gestation; and the well known case of Mrs. Durant was one of this kind. I lately saw a case of confirmed melancholia in a lady, which disappeared entirely on her becoming pregnant.

Generally speaking, these attacks come on gradually, continue for a time, and disappear before or after delivery, without any peculiar danger from the malady, or from the absence of rational self-control on the part of the patient. It is not always so, however; not very long ago a most melancholy instance of the contrary occurred. A lady, pregnant, but in perfect health, was employed in some household duty, and was talking cheerfully to her husband and sister. Suddenly, and without any apparent reason, she left them, went to her bed-room, and instantly destroyed herself. This must have resulted from a sudded attack of insanity, for up to the moment before she was cheerful and happy, in good circumstances, and greatly attached to her husband: but other members of her family have been subject to insanity. It has been remarked by most writers on this subject, that women affected with any degree of mental derangement during pregnancy, are more disposed than others to puerperal mania. But the serious character of these attacks is even deepened by the fact, abundantly established, that the evil is not limited to the mother. Not only may organic disease of the body be transmitted to the infant, but a predisposition to insanity, thus multiplying the distress in a most alarming ratio.

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* Montgomery on Signs of Pregnancy, p. 20.

† On Insanity, p. 235.

491. I need hardly say that we have no means of minutely explaining the *causes* of these attacks: we may say with Dr. Pritchard, that "if we consider the frequent changes or disturbances occurring in the balance of the circulation, from the varying and quickly succeeding processes which are carried on in the system during and soon after the periods of pregnancy and childbirth, we shall be at no loss to discover the circumstances under which a susceptible constitution is likely to suffer. The conversions or successive changes in the temporary local determinations of blood, which the constitution under such circumstances sustains and requires, appear sufficiently to account for the morbid susceptibility of the brain."* Or, in other words, that the brain and nervous system, like other organs, may be subject to reflex irritation from the uterine system.

In some pregnant women there is occasionally a special and very melancholy cause of mental derangement, in addition to the physical, common to all. I allude to the existence of some personal cause of mental distress, such, for instance, as a profligate or cruel husband; or, more effective still, an accusing conscience. All will agree with the distressing picture drawn by the able pen of Dr. Montgomery: "how deplorable must be the condition of mind in a woman, who led astray by the profligate from virtue's paths of pleasantness and peace, and then abandoned, is compelled to consider her pregnancy a curse instead of a blessing, and has, in addition to the ordinary troubles of that state, to bear up against the agony of disappointed hopes, of affections misplaced and cruelly abused, to endure the present scorn of society, and the apprehension of a still increasing shame, for which she is to find no "sweet oblivious antidote," of power "to pluck from the memory a rooted sorrow," or "rase out the written troubles of the brain." How often has such a state of mind been followed by convulsions; or ending in insanity, has armed with the weapon of suicide the once gentle hand of her, who, to use the words of William Hunter, "might have been an affectionate and faithful wife, a virtuous and honored mother, through a long and happy life; and probably that very reflection raised the last pang of despair which hurried her into eternity."[*] According to M. Esquirol, the moral causes of insanity in pregnant and puerperal women are to the physical as 4 to 1, and of 92 cases reported by him, 29 were in unmarried women.

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* On Insanity, p. 312.

492. Having thus pointed out the peculiarities of the uterine system during gestation, with the general or local reflex sympathies excited by them, I cannot conclude this chapter better than by a quotation illustrative of the effects of pregnancy upon existing disease, with which, I may add, my own experience perfectly agrees. The subject is an extremely interesting one, and deserves a much more elaborate consideration than I am able to give it. "Indeed I think," says Dr. Montgomery, "we have sufficient evidence to justify the belief that pregnancy acts in a great degree as a protection against the reception of disease, and apparently on the common principle, that during the continuance of any one very active operation in the system, it is thereby rendered less liable to be invaded or acted on by another; thus it has been observed that during epidemics of different kinds, a much smaller proportion of pregnant women have been attacked than others; and when women have been laboring under certain forms of disease happen to conceive, the morbid affection previously existing is either greatly mitigated, checked, or even altogether suspended for a time, as has been frequently observed in persons affected with phthisis. I had a patient under my care some years ago, with a white swelling of the elbow joint, which had gone to a great length, and was very little benefited by treatment, when all at once a very rapid improvement was observed. On questioning the lady, I found that she had reason to think herself about six weeks pregnant—which was the fact: from that time the case advanced uninterruptedly, so that before the end of her gestation the arm was perfectly well, and has continued so ever since."[†] In addition, I may mention that M. Nauche has a very interesting chapter on the effects of pregnancy upon acute and chronic diseases, and of these diseases upon pregnancy. "Pregnancy," he observes, "in general increases acute diseases, especially those of the uterus"—"it may cure hemoptysis or hæmorrhages distant from the uterus"—"chronic diseases are rendered slower in their progress, and some are cured"—"a temporary benefit is experienced in phthisis, and certain diseases disappear"—"except in procidentia and spasm, no good effects are produced upon the chronic diseases of the womb, on account of the increased afflux of fluids."[‡]

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[*] Signs of Pregnancy, p. 22.

[†] Signs of Pregnancy, p. 25.

[‡] Mal. des Femmes, part ii. p. 690.

CHAPTER II.

ON THE GENERAL MANAGEMENT OF PREGNANCY.

493. It is not often that medical men are consulted as to the management of pregnant women, under ordinary circumstances. A certain amount of inconvenience is anticipated, and so long as this supposed limit is not surpassed, the patient continues, with the advice of her female friends, to dispense with medical assistance. Still it is very desirable that every medical man should be perfectly familiar with the proper management of such cases, if for no more direct reason, yet for this, that through and by him more correct information may be circulated among those who are in circumstances to need it. Moreover, by taking a rational view of the inconveniences, we may often lay down rules which will prevent their occurrence; or, by slight adaptations, we may avoid the extremes of neglect or over treatment, and yet relieve the patient.

The rules for management are neither numerous nor complicated, but are simple deductions from the changes induced by pregnancy; and verified by experience. There is much more to be done in the way of avoiding disturbing causes than of remedying their effects.

494. We have seen that pregnancy is a physiological condition, that it is a "changed, but not morbid" state; that certain sympathies are excited naturally, and almost necessarily, and consequently we cannot, when speaking of treatment, contemplate their total suspension or removal. In the words of the experienced Dr. Burns, "as these proceed from the state of the uterus, it follows that when they exist in a moderate degree, they neither admit of, nor require any attempt to cure them, for their removal implies a stoppage of the action of gestation, which is their cause. But when any of the effects are carried to a troublesome extent, then we are applied to, and may palliate, though we cannot take them away. This we do by lessening plethora, or local irritation or excitement of the origins of the nerves, if necessary, by bloodletting; and allaying the increased irritability of the system, by the regular use of laxatives, which remove that particular state of the bowels which is so apt to cause restlessness and nervous irritation. If these are not altogether successful, the camphorated julep or musk are useful medicines. Besides this general plan, we must diminish the febrile state of the system, when such exists, by the regulation of the diet and suitable remedies."* No doubt, I believe, now exists in the minds of well-informed practitioners as to the propriety of bloodletting when the symptoms demand it; but the practice of taking away blood, merely because the woman is pregnant,

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* Principles of Midwifery, p. 249.

is strongly to be deprecated. It may injure some, do neither good nor harm to others, and will relieve those only whose condition requires it.

495. Many writers object to the employment of purgatives altogether, just as they do bleeding, and others give them as a matter of course; both are wrong, the correct course being undoubtedly to avoid either extreme. The bowels must be regularly freed, and when nature is insufficient, we must have recourse to laxatives, and the mildest which will answer the purpose are the best. An occasional dose of castor oil, or the frequent repetition of small doses; the electuary of sulphur and senna, especially if there be piles; or saline purgatives in small quantities, with some aromatic, will generally be sufficient. Or the patient may use enemata of warm water or gruel, with or without castor oil, once or twice a day; this will be peculiarly suitable when the stomach is irritable, or when diarrhœa or dysentery is epidemic. Great objections have been made to the use of more potent remedies, such as emetics and opiates during pregnancy, and so far I think with justice that they ought never to be used, especially emetics, unless the necessity for them be very clear; but in certain cases they may be most advantageously employed. If the patient have committed an error in diet, and have filled the stomach with trash it cannot digest, nature herself points out the remedy, and I am sure it is much safer to remove the offensive matter by a gentle—the very gentlest emetic, than to allow it to remain. If the patient be able to take exercise, and be not of too full a habit, wine, porter, or ale in moderation may be allowed with her dinner. The craving which some women feel in the night or early in the morning should be provided for, as it will be relieved by a biscuit, a little milk, or a cup of coffee. Even when the morning sickness is troublesome, if this be taken some hours before rising, it will generally remain on the stomach, and afford great relief. In addition to animal and farinaceous food, a moderate amount of vegetables and fruits may be permitted, avoiding those which are found to disagree. As to dress, the patient's own sensations will teach her to select that which is most comfortable, unless she be one of those foolish women who are ready to sacrifice every thing to the judgment of fashion. It should be warm and loose, affording sufficient support, but nowhere pressing tightly or unequally.* A rational adaptation of the means will in many cases prevent, and in most cases relieve the chief distress occasioned by the general sympathy of the constitution with the gravid uterus.

496. Let me now say a few words as to the best remedies for the

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* "Le mot *enceinte*, per lequel ils designent une femme grosse, veut dire *sans ceinture* selon son sens originaire."—*Gardien: Traitè des Accouch.* vol. ii. p. 15.

local reflex-irritations, and in so doing I shall follow the order in which they have been described. If the patient be suffering pain, or be sleepless, we may give opium without fear, but it must also be remembered that it is apt to derange the stomach and to constipate the bowels, and therefore we must use it sparingly, and endeavour to counteract its ill effects.

Fresh air and exercise are of great importance to the health of pregnant women, and to their well doing in parturition. At the same time the amount of exercise must be regulated by common sense. It would be worse than useless to force a woman to go through a certain amount of exercise every day, whether pleasant, beneficial, or distressing. Let her walk every day by all means, but let her cease before she is much fatigued, and if she be only able to walk a short distance with comfort, let that suffice. Her benefit is our object, and her own sensations must regulate the amount of her exertions. Some are scarcely able to walk at all without great distress, so that it would be cruel to press them; but as the danger with such persons is from plethora, I have generally insisted upon a diminution in their diet, abstinence from stimulating drinks, and a more frequent use of gentle laxatives. Under such circumstances this treatment has succeeded very well. If the patient can bear the motion of a carriage, fresh air can always be obtained, and the patient should drive some hours every day.

The diet must be carefully regulated; on the one hand we may allow a reasonable indulgence to the patient's taste, but on the other, inordinate or capricious fancies must be opposed. A moderate quantity of bland nourishing food may be taken at shorter intervals than usual. The mechanical inconveniences of early pregnancy are, as we have seen, pressure upon the rectum, causing constipation; upon the urethra or neck of the bladder, rendering the evacuation of the urine urgent, yet difficult; and upon the plane of the pelvis, giving the sensation of bearing down, or falling through. Now, against the first of these consequences we may guard by the due administration of mild laxative medicine, which at the same time, by keeping the bowels regular, will often prevent the occurrence of diarrhœa; against the second and third, by the regular evacuation of the bladder at intervals, and by avoiding the *prolonged* maintenance of the upright position in either standing or walking. This precaution is very necessary, as we sometimes find its neglect aid in causing displacements of the uterus. All great expulsive efforts must be avoided.

When the womb has risen above the brim of the pelvis, and is found to press inconveniently upon any organ, the pressure may generally be avoided by an alteration of position in bed, or by prolonging the horizontal posture for a longer time than usual. The latter precaution will afford temporary relief, at least to the distress occasioned by varicose veins, or œdema of the lower extremities. Pendulous belly, arising from flaccidity of the abdominal parietes, may be relieved by stays of a proper construction, which support the lower portion of the uterine tumor, and keep the whole more upright. The soreness of the skin in first pregnancies, from over-stretching, may generally be relieved by gentle friction with oily liniments.

497. It will be impossible to avoid the sympathetic irritations of pregnancy, especially those which are strongly favored by constitutional idiosyncrasy; but all external excitements should be carefully shunned, and all arrangements made with reference to their effects upon the temperament and habits of the patient. The food must be adapted to the irritability of the stomach or intestinal canal, and any medicine that may be necessary, chosen with reference to this condition. Constipation or diarrhœa* must be met by their appropriate remedies, but such as will excite the least amount of irritation. In cases where the breasts are painful, relief may be obtained by the use of an anodyne liniment, or friction with warm oil alone.

498. As regards the nervous system, Dr. Montgomery observes:—"The extreme impressibility of the nervous system in pregnant women teaches us the necessity of preventing them from witnessing scenes of acute suffering or distress, such as those of sickness, especially convulsive affections, or the agonies of a death bed: they should not be present when others are in labor, which sometimes greatly terrifies the timid, and even those who pass with courage through the same process themselves. They should not expose themselves to infectious disorders, which if they should happen to catch (though they seem less liable to do so than others), they will at least be very liable to miscarry; and even though they may not be themselves susceptible of the disease, the unborn infant may suffer from it, as has been proved with regard to small pox. Neither should they be permitted, if possible to see disgusting objects, for although no injury may thereby be done to the child, their minds are apt to remain much troubled with anticipations of some deformity or disfigurement likely to ensue."† Or, to enter a little more into detail, I would observe,—1. That we have seen that mental disturbance may exist in various degrees, from mere caprice or obliquity of temper, up to actual insanity, and that the various shades are separated by no very defined line, but run into one another in the same case. These caprices and melancholy anticipations are not to be treated with ridicule or indifference; still less are variations of temper, however unpleasant, to be met in a similar spirit of irritability, but the patient must be treated by a mixture of reasoning and patient kindness, soothed, and cheered, and

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* Unless we observe some degree of minuteness in our enquiries, we are liable to be misled by the patient's declaring the bowels to be too free. They may be frequently moved, although but a very small quantity passes each time. In this case a mild purgative is required, not an astringent.

† Signs of Pregnancy, p. 15.

strengthened. Nor should higher considerations be omitted: the forebodings of evil and the depression arising from fear are best relieved by a reference to the wisdom and fatherly kindness of Him "in whose hand are the issues of life."

2. This soothing and encouraging kindness is nearly all that we can do in those cases where there is no tangible bodily illness; but when there is any degree of feverishness or headache, immediate attention should be paid to the state of the digestive system and bowels. It is also possible that it may be necessary to take away a little blood, but such cases are rare.

3. With patients suffering even slightly in the way I have described, great care should be taken to avoid sudden or powerful mental emotions; all frightful and depressing stories; all tragic representations; all disagreeable and distressing sights should be sedulously shunned, for not only may much mischief result to the mother, but the offspring may suffer even if the mother escape.

4. Without the appearance of suspicion, great watchfulness should be exercised in all cases where the mental equilibrium is shaken, and measures adopted quietly to preclude the patient injuring herself.

499. The foregoing observations apply chiefly to the management of the ordinary course of pregnancy, or to very slight deviations from it, with the exception of the latter remarks upon mental disturbance. We shall now enter upon the more serious disorders, in distinct chapters, according to their classification.

The disorders of pregnancy then may be divided into three classes: 1st. Local disease of the sexual system. 2nd. Diseases arising from reflex irritation; and 3rd. Diseases arising from mechanical causes: and in this order I propose to consider them.

SECTION I.—DISEASES OF THE GENITAL ORGANS IN PREGNANT WOMEN.

CHAPTER I.

I. ŒDEMA OF THE LABIA.

500. I. ŒDEMA OF THE LABIA. This is a disease by no means unfrequent with pregnant women, varying a good deal in amount, and consequently in the degree of inconvenience it occasions. It is rare to find it during the early months of gestation, as it is ordinarily confined to the seventh, eighth, and ninth months.

Causes.—In the more numerous class of cases, the effusion is manifestly the result of pressure upon the veins, impeding the return of the blood. According to Dr. Davis this is peculiarly the case when the pelvis is sufficiently large to permit the uterus to sink down into it: he observes,—"These effects usually occur in women having pelves of sufficient amplitude to admit the gravid uterus to sink more or less deeply into their cavity, at a late period of pregnancy. The author recollects one case, in which the effect was partly ascribable to this cause, and partly to a general hydropic diathesis. Both labia were engorged, but one was prodigiously distended. The uterus was so low in the pelvis, that it felt to be absolutely incumbent on its very flooring. It was, however, distinctly moveable upwards, by the application to it of even moderate pressure. There was no difficulty of breathing, nor any other indication of effusion into the thorax. The treatment adopted was simple, and proved effectual. The patient was advised to lie down, with her head and shoulders as low as she conveniently could, and to use the horizontal position exclusively; while, for the general infiltration, which indeed seemed co-extensive with the cellular tissue of the entire surface of the body, she was prescribed calomel and digitalis, in the proportion of three grains of the former and one of the latter, night and morning, with the occasional addition of moderate doses of powdered jalap and citrate of potass. This treatment had the effect, in a few days, of completely removing the anasarca. The labia were also reduced to very nearly their natural size.

To retain them, however, in a state of moderate non-distension, the patient found herself under the necessity of keeping to the position prescribed to her till the accession of her labour."[*]

In another class of cases, it appears as a part of a general disposition to dropsical effusions, but having more important pathological relations than when it is the result of pressure merely.[†] It is needless to refer to those cases where it is caused by disease of the womb, as they seldom occur during pregnancy.

501. *Symptoms.*—The patient complains of a sensation of fulness, with more or less stiffness of the parts, rendering movement disagreeable or painful. In some cases there is considerable itching; Mauriceau has alluded to cases in which this symptom was very distressing,[‡] The swelling is less in the morning, and much increased towards evening, in all cases where it arises from pressure, and the distress it causes is generally relieved by lying down. The reverse is often the case when it is a part of more extensive effusion. The amount of swelling in some cases is very great: Dr. Meigs has seen it so considerable, as to interrupt the passage of the head of the child, and to prevent delivery until it was evacuated.[§] In many cases, as I have said, this affection is accompanied by œdema of the lower extremities. On examination, the labia will be found swollen, tense, colorless, almost transparent, of an equable density, and pitting upon pressure. Ordinarily there are no traces of inflammation about the part; but in some the friction of one labium against the other will give rise to inflammation of their inner surfaces. Aphthous inflammation has also been known to attack the labia, and Mauriceau mentions that he has seen œdematous labia attacked by erysipelas, which proved fatal after delivery.[‖] When the effusion is caused simply by pressure, there are no constitutional symptoms; but there is more or less feverishness when it results from inflammatory action in the cellular tissue, or when forming part of general anasarca. The disease appears altogether and immediately after delivery in most cases.

502. *Diagnosis.* It may easily be distinguished,—1, from *phlegmon of the labium*, in which we find a circumscribed hard tumor,

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[*] Obstetric Medicine, vol. i. p. 40.

[†] Mauriceau, (1724) Des Maladies des Femmes grosses, vol. i. p. 179. De la Motte (1726): Traitè des Accouch. p. 79. Puzos (1759): Traitè d'Accouchemens. p. 84. Burns' Midwifery, 9th edit. p. 239. Siebold's Frauenzimmerkrankheiten, vol. ii. p. 75. Joerg: Handbuch der Krankheiten des Weibes, p. 467.

[‡] Des Maladies des Femmes grosses, &c. vol i. p. 130.

[§] Philadelphia Practice of Midwifery, p. 111; see also Joerg: Handbuch der Krankheiten des Weibes, p. 467.

[‖] Mal. des Femmes grosses, vol. i. p. 181.

exquisitely painful on pressure, and generally limited to one labium, the surface of which is of a bright or deep red color: whereas in œdema, the tumor is not circumscribed, is softer, free from pain, and colorless.

2. From *sanguineous tumefaction of the labium*, which occurs during labor from the rupture of a bloodvessel, and is marked by its suddenness, the deep red color it imparts to the skin, its large size, and the agonizing pain. In œdema, on the contrary, the swelling occurs before labor, increases gradually, and is both painless and colorless.

3. From *encysted tumors of the labia* it may at once be distinguished by the diffusion of the swelling, its softness, and its coincidence with pregnancy.

503. *Treatment.*—When the effusion is owing to pressure alone, and is moderate in degree, the exhibition of a mild purgative, and rest in the recumbent posture, will generally be sufficient. The patient will derive great comfort from bathing the parts twice a day with warm milk and water, and afterwards dusting them with starch or flour.

Should the distension be great, we are advised to puncture or scarify the parts, nor does this operation appear to be generally attended with danger: as both Mauriceau* and Smellie† relate successful cases so treated, and Manning speaks of its good effects. A similar proceeding will be necessary, should the tumefaction offer sufficient obstacle to the child's head at the time of labor. In some cases the swelling may be considerably reduced by the use of diuretics and purgatives. Should inflammation arise between the opposite surfaces, antiphlogistic measures may be necessary; brisk purgatives, poultices, lotions of acetate of lead and decoction of poppy heads, blackwash, &c. or perhaps we may find it advisable to evacuate the fluid by small needle punctures. When this swelling forms a part of general anasarca, its treatment will merge in that of the more important disease, with a due adaptation of the mechanical arrangements to which I have referred.

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* "As soon as the labor came on, the labia were scarified to let out the contained water. The labor terminated happily two hours afterwards. Inflammation attacked the labia subsequently. The woman had been suffering from fever for some days before delivery, and it continued, with tension of the belly, dyspnœa, and diarrhœa, and she died seven days after delivery. The puncture of the labia does not appear to have added to the danger. "Il faut remarquer," continues M. Mauriceau, "que ces sortes de tumeurs, qui arrivent quelquefois aux cuisses et aux levres exterieures de la vulve aux femmes grosses, ne sont pas ordinairement dangereuses, quand elles ne sont simplement qu'œdemateuses."—*Observ. sur la Grossesse et l'Accouch. des Femmes et sur leurs Maladies*, 1728, vol. ii. obs. 14, p. 70. See also vol. i. p. 180, Ed. 1754.

† Midwifery, vol. ii. Coll. 10, No. 3, c. 3, p. 91.

CHAPTER II.

VAGINAL LEUCORRHŒA.

504. I have already spoken of the irritation extended from the gravid uterus to the pelvic viscera, and of these we cannot be surprised to find the vagina among the earliest and most prominently affected. This irritation gives rise to a considerable increase in the mucous secretion of the vagina, to vaginal leucorrhœa, as it is called; there can be no doubt as to the local origin of the leucorrhœa in pregnant females; the cervix uteri being closed by tenacious mucus, it cannot proceed from the uterus, and the only secreting surface that remains is the mucous membrane of the vagina. I need not enter very minutely into the subject, however, as it is treated at length in the former part of this work. It is an extremely common accompaniment of pregnancy; so much so, that few women entirely escape, although it rarely produces any serious disturbance.

505. *Causes.* It may, of course, be excited during pregnancy by any of its ordinary causes; but in addition it may be regarded as the consequence of the pressure of the gravid womb exciting irritation; of the increased vascularity arising from the more active circulation; and also of the slow return of blood, owing to the superincumbent pressure of the enlarged uterus upon the veins. It is very probable also that the state of the patient's constitution generally may have an important influence in the production of leucorrhœa during gestation. It is stated by Dr. Davis to be worse generally before the uterus rises from the pelvis than subsequently.*

506. *Symptoms.* When slight, as in the majority of cases, it scarcely gives rise to any symptoms; but when excessive, it causes great debility, and aggravates the aching in the back, of which pregnant women so often complain. I have known patients rendered so weak by the excessive quantity of the discharge, as to be unable to sit upright. In some cases, at an early period of pregnancy, it is said to threaten miscarriage; but towards the end of gestation, it is said to render labor more easy, by lubricating and relaxing the passages.

As to the character of the discharge itself, very often it is merely an excess of the natural mucus, transparent, colorless, and bland. Occasionally it is of a thicker consistence, and yellowish or greenish; in other rare cases, it is acrid, and excoriates the neighbouring skin. We sometimes also see cases presenting a greater appearance of acute inflammation than those I have described: the pulse being quick and full, and the parts hot. But, in general, there is no febrile movement whatever.

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* Obstetric Medicine, vol. i. p. 161.

507. *Treatment.* It is not always easy, nor even desirable, to cure the disease suddenly or radically. It may act as a derivative, and prevent a more serious congestion of a more important organ. In very trifling cases the inconvenience is so slight, that we are rarely consulted; and even in more aggravated cases, the persistence of the peculiar causes may render our efforts unsuccessful until after delivery, when the disease naturally terminates. Taking these circumstances into consideration, our attention, as Dewees remarks, "should be principally confined to the temporising plan of treatment." "For this purpose," he continues, "we simply direct washing the parts three or four times a day with lukewarm water, and throwing into the vagina, by means of a small syringe, a weak solution of the acetate of lead; this should not exceed a scruple to eight ounces of water. Previously to using the injection, the parts should be well washed with a weak solution of fine soap in warm water, by throwing up the vagina a few syringes full of it in quick succession, and then followed by the saturine solution."*

I have found a weak solution of nitrate of silver (gr. x. or gr. xv. to ℥iii. of water) as an injection, still more effectual. Decoction of oak bark, matico, or green tea, solution of alum or acetate of lead, will also arrest the discharge in many cases.

Should the pulse be quick and full, and the parts hot, great benefit will be derived from venesection. The state of the stomach should be attended to, and the action of the bowels promoted. In females of weak constitution, tonics are often useful.

CHAPTER III.

MENSTRUATION DURING PREGNANCY.

508. It is well calculated to excite surprise, if not incredulity, to find a function, dependant upon ovarian influence, and ordinarily performed by the lining membrane of the body of the uterus, taking place when the cavity of the womb is lined by decidua, and occupied by the ovum, and the mouth closed by dense mucus. However strange it may appear, the cases on record are too numerous and too well authenticated to bear a doubt, that a discharge resembling the catamenia in color, quantity, and periodicity, does not unfrequently occur during gestation, and since the first edition of this work several additional cases have come under my own immediate observation.

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* Compendious System of Midwifery, p. 117.

That the ancients were well aware of the fact appears from a statement of Hippocrates, that "the children of women who menstruate during pregnancy cannot be healthy,"[*] but which I have found not to be true. Many cases of this kind may be cited from both ancient and modern authorities.[†] Some females are stated to have menstruated once or twice only after conception, and that the discharge then ceased. The reader will find such in the works of Mauriceau,[‡] Puzos,[§] Desormeaux,[‖] Johnson,[¶] Belloc,[**] Van Swieten,[††] Frank,[‡‡] Chambon,[§§] Gardien,[‖‖] Capuron,[¶¶] Rœderer,[***] Beck,[†††] Dewees,[‡‡‡] Blundell,[§§§] Gooch,[‖‖‖] Kennedy,[¶¶¶] Montgomery,[****] in Siebold's Journal,[††††] and in the report of the Berlin Midwifery Hospital,[‡‡‡‡] &c.

Again, cases are on record where the discharge did not merely happen once or twice, but persisted during four, five, or six months, or even during the whole period of gestation; as we find in the works of Mauriceau, Dewees, Burton, Heberden,[§§§§] Gardien, Velpeau,[‖‖‖‖] Blundell, &c. I have myself seen eight or ten cases of this deviation from ordinary menstruation. In the most remarkable case of all, it continued during the entire period of pregnancy, and during lactation: in the others it was arrested from the fourth to the sixth or seventh month; but in all it was well marked, occurring regularly, generally smaller in quantity, and occasionally of a lighter color than usual; but in other cases not to be distinguished from the ordinary discharge.

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[*] Aphorism 60, book 5th.
[†] Thom. Bartholinus de Morbis Biblici, 1672, p. 61.
[‡] Mal. des Femmes Grosses, vol. i. pp. 72, 75.
[§] Traitè des Accouchemens.
[‖] Dict. of Medicine, vol. x. p. 394.
[¶] System of Midwifery, p. 100.
[**] Quæst. Med. Legal. p. 62.
[††] Commentaries, vol. xiii. pp. 379, 489.
[‡‡] Comment. vol. iii. p. 378.
[§§] Mal. des Femmes, vol. v. p. 57.
[‖‖] Traitè des Accouchemens, vol. i. p. 489.
[¶¶] Med. Legale, p. 63.
[***] Elem. Art. Obstet. p. 46, cap. 7, sec. 146.
[†††] Principles of Med. Jurisprudence, p. 76.
[‡‡‡] Compendious System of Midwifery, p. 93.
[§§§] Principles and Practice of Obstetricy, p. 165.
[‖‖‖] Diseases of Women, pp. 202, 203.
[¶¶¶] On Signs of Pregnancy, p. 12.
[****] Ibid. p. 46.
[††††] Vol. vi. p. 276; vol. viii. p. 155.
[‡‡‡‡] Lancet, Jan. 27, 1838.
[§§§§] Commentaries, p. 208.
[‖‖‖‖] Art. des Accouch. p. 125.

Still more remarkable and rare than the cases I have noticed, are those where the menstrual secretion appears for the *first* time during pregnancy, and yet such cases have been recorded by Perfect,* Reid,† Velpeau,‡ and others; or where it *only* appears during gestation, according to Daventer,§ Baudelocque,‖ Dewees,¶ &c.

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* "This case was a young lady who presented all the symptoms of early pregnancy, excepting that at this time the menses appeared, 'a circumstance which had never before attended her.' She continued to menstruate every month until the end of pregnancy, when she was delivered of a small but healthy child."—*Cases in Midwifery*, vol. ii. p. 71, case 80.

The following cases are of the same kind:—"Mad. N———, the wife of a builder, aged 24, and married eight years, had never menstruated excepting when she was pregnant; and when the flux appeared, it was known for a certainty that she had conceived. She ultimately died of dropsy."—*Comment. by G. C. Winckler, Ephem. Germ. An.* 3, p. 555. "A young woman was married at the age of 21, up to which period she had never menstruated, though her health had been good. After a lapse of about two years, subsequently to her marriage, she appeared to lose her health, and in the month of February was seized with sickness and vomiting, and on the following day she sustained a discharge of blood from the uterus, and it continued to flow for four days. In the following month it appeared again, and at the same time the abdomen increased in size. The subject of the case conjectured that she was pregnant, and the evacuation continued to make its appearance monthly. At the full period of gestation, she brought forth a healthy child. The lochia followed, but the menses no longer returned. This notice was written six months after the delivery."—*Comment. Bononiensi. Instit. Scient.* 1748, vol. i. p. 152.

† After describing a peculiar case of labor, Mr. James Reid, of London, concludes his letter to the editor of the *Medical Gazette*, thus "I may mention as another curious fact relating to this patient, that during the period of nine years that she has been married, she had never seen the catamenia till she became pregnant with this last child, after which, up to the term of quickening, they appeared regularly every month."—*Medical Gazette* for May 2, 1835, p. 146.

‡ Traitè des Accouchemens, vol. i. pp. 117, 118.

§ Novum Lumen Art. Obstet. cap. xv. p. 54.

‖ M. Baudelocque states that he has met with several women who assured him that they had not had their menses periodically, except during their pregnancies. Their testimony appeared to him to deserve more credit, because they only applied to him for an explanation of the extraordinary phenomenon.—*Heath's Translation*, vol. i. p. 230.

¶ In this case the woman had never menstruated until after con-

I think we are justified in concluding, that the evidence of so many accurate observers undoubtedly establishes the fact of menstruation occurring during gestation, however difficult the explanation may be. It must not be concealed, however, that others have held a different opinion. Dr. Denman observes: "A suppression of the menses is one of the never-failing consequences of conception; at least, I have not met with a single instance of any woman continuing to menstruate when she was pregnant, though I know that popular opinion is against the assertion, and that exceptions to it are frequently mentioned by men of science. What gratification the human mind is capable of receiving by the affectation of singularities of constitution, which do not depend upon our will or power, and from which neither reputation nor advantage can be derived, philosophers may determine. But it is well known that in practice there is great occasion to be circumspect; for either from the misrepresentations of patients, or the credulity or vanity of writers, many medical works are filled with the most useless and improbable histories, defective in the essential article of all records—truth: and this charge hath been made in the most pointed terms against many writers on the subject of midwifery."* The late Dr. Hamilton, of Edinburgh, in his last work, agrees with Denman.†

509. Some slight variations are observed in the discharge; it is generally rather paler than the ordinary menses. The quantity is sometimes greater than usual, but more frequently less. In no case is the discharge coagulable, or accompanied with clots. It does not appear that there is much risk, if any, of abortion or premature labor, the symptoms being ordinarily much milder than previous to conception. There may be some pain in the back, and a sense of general weakness, but not so great as to incapacitate the patient. The recurrence of the discharge does not seem to produce much, if any, effect upon the growth of the child; the majority being of the full size when born.

510. *Pathology.* Different opinions have been broached as to the seat of the discharge. It has been supposed to proceed from the lower portion of the uterine cavity, before the ovum is sufficiently large to fill it, or from the vessels of the cervix uteri, whether internal, or external, (*Van Swieten,*‡ *Frank,*§ *Hoffman,*‖ and *Desormaux*¶)

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ception, but from that time "she had the regular returns of her catamenial period until the full time had expired." The same menstrual development recurred on the occasion of a second pregnancy.—*Dewees' Compendious System of Midwifery,* p. 97.

* Introd. to Midwifery, 7th edit. p. 148.

† Pract. Obs. on Midwifery, pp. 76, 212.

‡ Commentaries, vol. xiii. pp. 379, 469.

§ Epit. de Morb. Human. de Metrorrhagia.

‖ Ratio Medendi, vol. iv. pt. 9, cap. 625.

¶ Dict. de Medicine, vol. xiv. pp. 84, 85.

or according to Velpeau, from the vaginal mucous membrane. I do not see how the first opinion can be maintained against the fact, that the canal of the cervix uteri is blocked up by tenacious mucus immediately after conception, and the circumstance of the decidua lining the entire cavity by which the menses are secreted. The second explanation may be true, but it appears to me to assign too limited a source to the discharge, though I question not that the mucous membrane covering the cervix may share with the vaginal mucous membrane the vicarious function. The latter opinion of M. Velpeau is rendered more probable by the fact, that one of the patients from whom Dr. Charles Johnson of this city removed the entire uterus, menstruated after the operation.* As to the pathological cause of this deviation, it is more difficult to state anything explanatory. It is evidently owing to ovarian excitement, and to that habit or necessity of periodical discharge, which gives rise to other varieties of vicarious menstruation. It is neither more or less easy to account for a monthly discharge of apparently menstrual fluid from the vaginal mucous membrane, than from the mucous membrane of the lungs, gums, eyes, ears, &c.

511. *Treatment.* As so few symptoms attend this disease, and those few so slightly distressing, very little medical interference is required. The patient, to ensure safety, should be enjoined to preserve the recumbent posture so long as the discharge continues. Her clothing should be comfortable, but not too warm; her diet nourishing, but not stimulating; and her occupations cheerful.

An attempt has been made, in different ways, to arrest the discharge. Hippocrates advises the application of cupping-glasses to the breasts. Whether as effectual for this purpose as for relieving amenorrhœa, I am unable to decide. Mauriceau and others have advised blood-letting from the arm, but I believe that the general opinion at present is in favour of temporizing treatment.

CHAPTER IV.

DISCHARGE OF WATERY FLUID FROM THE VAGINA.

512. PREGNANT females are occasionally attacked by a fluid discharge from the vagina, quite different from the leucorrhœa, which has just been described. It may occur once, twice, or thrice during pregnancy, and continue for a week or two, or persist for several months. The

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* Dublin Hospital Reports, vol. iii. p. 479.

quantity varies a good deal, from a few ounces to some pints daily, and the character of the discharge is uniformly colorless, transparent and bland. A vaginal examination affords no explanation, as no deviation from the healthy condition of the parts can be detected. It is important to note that in the majority of cases, the size of the abdomen does not appear to be lessened by the discharge. The only symptoms which attend the disease are excessive weakness and some pain in the back.

513. *Pathology.*—Two suppositions have been started to explain the source of this discharge. First, it is considered by some to be an excessive secretion from the glands of the cervix uteri; secondly, by others, it is supposed to arise from the evacuation of the liquor amnii, or liquor chorii.* As to the first, it may be objected that most of the discharges that we know to originate in the glandular structure of the cervix uteri are opaque and colored, or if transparent, are of a much thicker consistence than water; but that a temporary and excessive secretion of thin transparent mucus may take place from the vaginal mucous membrane, we have sufficient proof in the profuse discharge of mucus which precedes or accompanies labor. It is probable, therefore, that the disease under consideration may have its seat in the lining membrane of the vagina, but not at all probable that it originates in the glands of the cervix uteri. As to the second cause of the discharge, it undoubtedly does occasionally happen that the fluid collected between the amnion and chorion, or between the chorion and decidua, is evacuated during pregnancy, or some time before the commencement of labor. Dr. Davis speaks of this occurrence as highly dangerous:—"The escape in dribbling quantities of an aqueous fluid, similar to the liquor amnii, for many weeks or months before the accession of labor, is in most cases a dangerous, and often a fatal affection of the pregnant state."† This is at variance, however, with other authorities who do not generally consider this disease as of so serious a character.

The following cases illustrate the disease very well:—"A gentlewoman of the age of thirty, on Tuesday, April 22, 1770, in the latter end of the sixth month of her fifth pregnancy, was suddenly seized with a great weight and oppresion at the lower part of the abdomen, so that she was not able to walk up stairs, but was under the necessity of being carried. The morning after this happened, I accidently called upon her, and found the abdomen considerably larger than it ought to have been for the time. She was scarcely able to walk across the room. In the afternoon she had some labor pains, and parted with near a quart of water, which came from her all at once, and continued running from her for seven days successively, from the time of her rising in the morning till the time of her going to bed at night, so as to wet sixteen or seventeen double cloths every day; but it always ceased when she lay down, either night or day. On Monday, April 29, the running of the water ceased." On Tuesday, May 7th, she had a relapse of her disorder. "In this state she continued parting with water in the manner above related, at intervals of three or four days, when it generally ran from her for the space of one day, excepting that part of it when she lay down upon the bed, till the 30th of June. After this time the water began to run from her every morning, as soon as she got out of bed, and continued all day, except when she lay down, as before, till within five days of her delivery, which happened July 15th." "In the morning of July 14th, she was taken ill (with labor pains) again, and parted with a greater quantity of water that day than she had ever done before." At 6 a. m., July 14th, "I found the os uteri much dilated, *the waters collecting, and the membranes pushing strongly down;* her pains were very regular and strong; *the membranes came to the os externum before they broke;* and after two more pains she was delivered of a large healthy child, about 5 a. m. Since the above, the same lady has had three children. The circumcumstances in each were nearly the same with the foregoing case." The fluid did not coagulate on the application of heat.*

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* Siebold's Frauenzimmerkrankheiten, vol. ii. p. 371.

† Obstetric Medicine, vol. ii. p. 901.

"It seems probable that in many of the above cases of what has been technically called *dribbling of the waters*, the membranes of the ovum may have been their source. We know that it is a peculiar function of the amnion to secrete the fluid which takes its name from it. Whether the chorion may also not sometimes take upon itself the same office, the author knows of no sufficient evidence to enable him to decide the fact. But if we do not assume it, we shall find it very difficult to account for such profuse discharges of colorless fluids as have sometimes been reported to have occurred during pregnancy; and where afterwards it has been proved, as in Dr. Alexander's case, that the amnion has sustained no solution of continuity. Analogy would lead us to suspect the existence of what might be called a dropsy of the chorion, it now being well known that the amnion is liable to become the agent of a morbid discharge, which has already received the designation of dropsy of the amnion."†

"A woman of 28 years of age was seized, in the fourth month of her pregnancy, with a discharge of very clear lymph from the vagina, so that she voided of this transparent fluid about two pounds daily. On the third day after the accession of this flux she was attacked with fever, in consequence of which it sustained an inconsiderable diminution of its quantity, but was not suppressed. The fever was repressed by bleeding, and the use of cinchona bark. The flux of lymph, however, continued during the whole of her pregnancy, but during the latter months only in the quantity of about half a pound daily. About the eighth month the patient fell into a violent passion, which was followed by the accession of labor pains, and she was delivered of a healthy living child soon afterwards."*

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* Medical Commentaries, vol. iii. p. 187.

† Davis's Obstetric Medicine, vol. ii. p. 903. See also Mauriceau, Mal. des Femmes grosses, vol. i. p. 171, vol. ii. p. 561. Puzos: Traité des Accouch. pp. 86, 87.

Dr. D. B. Scharf, in the Nuremberg and Leipzig Miscellanies, mentions a similar accompaniment of pregnancy, and states that he had few hopes of a favorable termination. He prescribed certain remedies, which caused an abatement of the discharge, though it did not entirely cease till the full period of pregnancy, when a fine healthy child was born.†

The most recent case of this kind with which I am acquainted is recorded by Dr. Petel, of Chateauroux, in the Gazette des Hospitaux for July, 1838: "Theresa Nonain, æt. 39, of good constitution, and the mother of three children, was attacked by vomiting in the month of July, 1833, and towards the end of September (not having menstruated for four and a half months) there was discharged from the vagina nearly three pints of limpid water. Pains similar to those of labor came on, but ceased after a while, without having produced any effects. From this time the discharge continued night and day, to the amount of two or three pints every twenty-four hours. It escaped involuntary from time to time, and without pains. The urine was always sufficiently abundant, but the fæces were very hard. Her nourishment consisted of a little milk in the morning, and some light aliment in the evening, far less in amount than the fluid which escaped from the vagina. Her appetite at this time had almost ceased; her complexion was sallow, and she was without strength. She felt no fœtal movement; her figure increased but little, and "ballottement" could not be felt; and consequently it was doubted whether she were pregnant; but on the 5th of February, 1833, she was seized with labor pains, and *the ordinary amount of liquor amnii* was discharged, with a little blood. The next day she was delivered of a living child, which, with the mother, did well." She must have lost from 300 to 390 pints of water at least.‡

It is clear, then, that there must be some other source of the fluid discharge of which I am treating, than the cavity of the amnion.

514. Further, the membranes occasionally give way, and the liquor amnii is evacuated without bringing on labor. Professor Burns of Glasgow remarks, "I have known instances where, after fright or

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* Comment. de Rebus in Scient. Nat. et Med. vol. iii. p. 648, Leipsic, 1754.

† Ephem. Germ. Dic. 2, p. 250.

‡ Encyclographie, Aug. 1838.

exertion, a considerable quantity of water has been suddenly discharged, with subsidence of the abdominal tumor, or feeling of slackness, and even irregular pains have taken place, and yet the woman has gone on to the full time."* Dr. Pentland, formerly master of the Dublin Lying-in-Hospital, has recorded a similar case.†

In cases of enlargement of the uterus from hydatids, when the symptoms resemble those of pregnancy, this occasional discharge of clear fluid is a prominent sympton.

515. *Diagnosis.*—The principal grounds upon which our diagnosis must be founded are the character and quantity of the discharge, its frequency of return or persistence, the effect upon the size of the abdomen, and the integrity of the membranes, if it be possible to ascertain the latter. If the discharge be sudden and profuse, accompanied with subsidence of the abdomen, we may conclude that probably the membranes have ruptured, and the liquor amnii escaped; but if the discharge be smaller, escaping more gradually, and not affecting the size of the uterine tumor, we can only suppose it to have proceeded from the vagina or chorion. Between these two sources it may be impossible to decide.

516. *Treatment.*—For discharges proceeding from within the membranes we have no remedy. The utmost we can do is to keep the patient quiet, dry, and clean. An occasional anodyne may have a beneficial effect. If, on the other hand, the vagina be the seat of the disease, we may employ some astringent injection, such as decoction of green tea, oak bark, matico, or a solution of alum, nitrate of silver, &c. and in some cases we shall succeed in arresting the discharge, but not in all.

The bowels must be kept free, and the patient cautioned against making much exertion.

CHAPTER V.

DROPSY OF THE AMNION.

517. ALTHOUGH the ordinary abdominal distension caused by the enlarged uterus is in most cases attended by some slight inconvenience, still, with a little management, it it not intolerable. But in some cases the quantity of liquor amnii is so much beyond the ordinary amount, that considerable distress results from it, as in the fol-

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* Midwifery, p. 244.

† Dublin Medical and Physical Essays, No. I. Art. 1–3.

lowing case related by M. Duclos,* and abridged by Dr. Davis: "A lady aged twenty-five years of age, of a weak and lymphatic constitution, was seized in the seventh month of her sixth pregnancy with dry and frequent cough, which disturbed her at night. To the cough was added fever, intense thirst, dry skin, scanty and lateritious urine, œdema of the lower extremities, loss of color, and restlessness. Soon afterwards the abdomen became hard, tense, painful, and much enlarged, and the respiration at the same time so tight and laborious, that the patient could no longer retain the horizontal posture. Hiccup, palpitations, vomitings almost incessant, rending pains in the loins, cessation of the motions of the fœtus, anxiety, fainting, and aphonia ensued. On examination in this deplorable state, Dr. Duclos recognised an excessive distension, with a more than ordinary elevation of the uterus. This organ seemed to occupy the whole of the cavity of the abdomen. Its orifice was directed backwards and towards the base of the sacrum, and the fluctuation of a fluid within its cavity was abundantly perceptible; a consultation was instantly summoned. The pulse was then small and weak; the face was shrunk and dejected; the respiration short, hurried, and suffocation seemed actually impending on hazarding any change of position. The nature and peril of the case was unanimously agreed on by the consultants; and premature delivery, while acknowledged to be full of danger, was indicated as the surest resource. Yet some diversity of opinion as to the best means of inducing labor existed. How, in fact, it was inquired, was the dilatation of the uterine orifice to be effected, in its present high and unfavourable situation. Extraordinary efforts, such as might prove fatal to the patient in her exhausted state, would be evidently requisite for this purpose. Hence the attempt was considered as highly objectionable by Dr. Duclos, until labor should commence—an event which the extreme distension of the uterus would probably soon determine. The consultation was therefore adjourned till next morning. On the subsequent day, the question of artificial delivery was again discussed; it was decided to wait till the os uteri should evince a tendency to dilatation. The patient now received the sacrament, and soon afterwards sank into a state of syncope—on recovery from which, incipient dilatation of the uterine orifice was perceptible. On striking the abdomen, fluctuation could be easily distinguished throughout its whole extent. Observing a return of the suffocation, Dr. Duclos determined on immediately rupturing the membranes, and evacuating the liquor amnii at four several times, with an interval of fifteen minutes between each. With his finger introduced into the os uteri, he regulated the evacuation—while the process was seconded by the pressure of a napkin encircling the abdomen. In this manner fourteen pounds of fluid were discharged, independently of what escaped without being received into a basin. The vomiting immediately ceased, and the respiration was relieved. During five hours of subsequent repose, the strength was recruited by frequent administration of light broth, with the addition of small quantities of wine. The cough and palpitations had greatly subsided; but as the uterus seemed no longer capable of making an effort, the termination of the delivery was resolved upon. The uterine orifice, thin and unresisting, was easily dilated, and a small child was extracted, with the assistance of the forceps. The child, a female, although living, was puny and feeble, with very slender limbs. From the calculation of the mother, it had nearly attained its seventh month of uterine growth. Immediately after delivery, the bandage round the patient's abdomen was somewhat tightened; and an attempt was made to excite the action of the uterus by external frictions, and by titillations applied to the orifice of that organ, aided by an occasional exhibition of thin soap, together with some wine. Compresses, moistened with brandy, were applied to the abdomen; and a few hours of refreshing sleep, sufficient to dissipate completely the hiccup and the palpitations, were enjoyed. The lochia were very abundant, but almost serous. The flow of urine on the following day was copious, if not profuse. On the third day after delivery, the œdema of the extremities had considerably diminished, and the secretion of milk had duly taken place. In ten days afterwards the œdema had entirely disappeared, but the lochia continued to flow till the fifteenth. In six weeks the patient was quite restored. At the end of two years she again became pregnant, and went through the process of parturition in the most favorable manner."*

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* Bull. de la Facultè de Med. June, 1838.

This form of disease is quite different from the collection of fluid between the chorion and amnion to which I have just alluded. As a well-marked disease it is rare, but minor degrees of it are not very uncommon; at least the differences of the patient's size in different pregnancies is often no otherwise explicable than upon the supposition of the liquor amnii being more abundantly secreted at one time than another.

518. *Causes.*—There can be no doubt that the proximate cause is the excessive action of the secreting vessels of the amnion, and consequently that the disease is one rather of the ovum than the uterus; but whether this is invariably the result of inflammation may, perhaps, be doubted, although the remarks of M. Mercier appear to favor this opinion.† It would appear also that it may be connected with

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* Davis's Obstetric Medicine, p. 906.

† Journal Gen. de Med., vol. xliii. p. 165; and vol. xlv. p. 256. See also a case by M. Davilliers, Journ. Gen. de Med. vol. xlii. p. 252; and another by M. Desmarais, in the Receuil Period. de la Societè de Santè, vol. vi. p. 357.

diseases of the placenta, such as cysts tubercles, induration, dropsy, &c.* Neither is it improbable that some constitutional peculiarity or disease in the mother may be among the remote causes of this disease, and the fact of its recurrence in the same woman seems to confirm this view.

519. *Symptoms.*—As we might expect, in the slighter cases, the principal symptoms arise from the mechanical distension of the abdomen. The uterus is much larger than usual, and proportionably more weighty, rendering the patient very uncomfortable in the upright position and in walking.† But in some cases the uterus is not only much larger than usual, but its increase of size has been rapid, almost sudden, and this occurrence should always excite our suspicion of this disease. If it be the third or fourth gestation, and the abdominal integuments be tolerably flaccid, the uterus will fall forward, giving rise to what has been termed "pendulous belly," and adding greatly to the distress. In most cases some inconvenience is felt from the increased pressure upon the bladder, and in some from pressure upon the stomach and intestines. It would naturally be supposed that the greater size of the abdomen would more decidedly obstruct the various trunks of the lower extremities, and so occasion the legs and feet to swell more than usual; but this does not appear to be always the case.

The constitutional symptoms are not very remarkable: the tongue is generally whitish, the urine scanty, and the digestive functions imperfectly performed.‡ In the more aggravated cases, however, such as that related by M. Duclos, these symptoms were very severe. Hiccup, palpitations, incessant vomiting, fever, cough, œdema, anxiety, faintings, &c. placed the patient in very imminent jeopardy. Fortunately such extreme cases are very rare.

The infant, however, does not escape so well: it is either very feeble or diseased, when born at the full time, or it dies before the completion of utero-gestation.§ Dr. Burns remarks: "All of these causes do not operate uniformly to the same extent, but the fœtus suffers in proportion to their operation. It is either born very feeble and languid, and is reared with difficulty, or it dies almost immediately, or it perishes before labor commences; and this is generally the case where the diseased state exists to any degree. The period of the child's death is usually marked by a shivering fit, and cessation of motion in utero, at the same time that the breasts become flaccid. Afterwards, irregular pains come on, with or without a watery discharge. Sometimes the woman is sick or feverish for a few days before labor begins."* In the British and Foreign Medical Review for Oct. 1839, pp. 564, 565, there are four cases of the "morbid accumulation of the liquor amnii," extracted from the Neue Zeitschrift für Geburtskunde, Band 7, Heft 1. Three cases are by Dr. Bunsen, of Frankfort-on-the-Maine, and one by Dr. Kyll, of Cologne. In case 1, the placenta was very large, and the child hydrocephalic: in a subsequent pregnancy, the placenta was still larger, but the quantity of the liquor amnii was not excessive. The child was very feeble. Case 2.—Child born with ascites, and lived only twenty hours. The placenta was very large. Case 3.—The child was healthy. Case 4, I shall extract: "The patient, a lady æt. 28, first came under Dr. Kyll's care, in consequence of having been infected with syphilis, by a girl whom she had employed to draw her breasts after her first confinement. After having suffered from this disease for eight months, she applied to Dr. Kyll, who prescribed corrosive sublimate with advantage; but when nearly well, she aborted, at the third month of her second pregnancy. Three months afterwards, having perfectly recovered, she became again pregnant, and suffered much during this pregnancy from varicose veins of the thighs. Venæsection, however, afforded her great relief. At the end of the sixth month, without any assignable cause, the liquor amnii began to drain away; two days after which, labor set in, and a female child was born, which struggled a little, and then died. The expulsion of the child was accompanied with the escape of a very large quantity of liquor amnii. At the expiration of two hours, the placenta, which was universally adherent, was removed, when Dr. Kyll was struck by its remarkably large size. *The circumference of the organ was more than a third greater than natural, and its thickness was double that of an ordinary placenta.* It was of a pale red color, and of a spongy structure; but on dividing it, its tissue appeared perfectly natural, save that the bloodvessels were larger than usual, as were also the umbilical arteries and veins, although the child wanted three months of the full term. Three days after delivery, the patient lost a considerable quantity of blood from the uterus, but eventually she recovered. The large size of the abdomen of the fœtus had already attracted Dr. Kyll's attention, and on making an examination of it, a large quantity of straw-colored fluid was found in its cavity, and between the folds of the omentum. The liver was very large, occupying the whole abdomen, and reaching downwards nearly to the bladder; but its substance, when cut into, presented no sign of inflammation, nor any other change in structure than great development of its vessels. This unusually large size is referred by Dr. Kyll to the hypertrophy of the placenta, and the consequently increased quantity of blood which the liver would receive.

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* Burns' Midwifery, p. 243.

† Scarpa's case, in Journal Complement. des Sciences Med. vol. i. p. 91.

‡ Joerg: Handbuch der Krankheiten des Weibes, p. 497. Siebold: Frauenzimmerkrankheiten, vol. ii. p. 368. Carus: Gynœcologie, vol. ii. p. 238.

§ Puzos: Traitê de Accouchemens, p. 86.

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* Midwifery, p. 242.

The enlargement of the placenta is, in his opinion, owing rather to congestion than to inflammation, since the results of inflammation are obliteration of vessels from exudation, and consequently diminished nutrition of the organ; owing to which it shrinks, and its structure becomes more compact and firmer than natural, sometimes attaining to an almost cartilaginous hardness."

A case is related by Mr. Debenham of twins, in one ovum of which dropsy existed; he estimates the quantity of fluid at four or five gallons. Both fœtus were dead, but nothing is said about the placenta;[*] there was great flooding. Another case is mentioned by Mr. Grimshaw—the child was recently dead, and hemorrhage occurred.[†] A third case, very similar, is described by Dr. Neale[‡]—the child was dead, and hemorrhage occurred.

Whether the injury to the child arise from pressure, from the fluid being less nutritious, or from some other cause, it is difficult to say: in one case I found it hydrocephalic.

Besides the inconveniences resulting from this disease during pregnancy, it sometimes occasions delay in the first stage of labor; the over-distension diminishing the contractile power of the uterus, but which is easily remedied by rupturing the membranes. After labor hemorrhage sometimes occurs, and from the same cause, the uterus having lost its ordinary tone and contraction, from the previous distension.

520. *Diagnosis.*—The principal diagnostic marks of this disease are the disproportionate size and sudden and rapid increase[§] of the uterine tumor; the presence of certain signs of pregnancy: and in some cases, the situation of the child, and the feebleness of its movements. As to these latter points, Dr. Burns remarks, that "in some instances the child occupies the upper part of the uterus, and the water the under, at least during labor. Twice in the same woman, in succeeding pregnancies, I found the child contained in the upper part of the uterus, and embraced by it as if it were in a cyst, while several pints of water lay between it and the os uteri, when the water came away, filling some basins. Then the child descended to the os uteri, but was born dead, with the thighs turned firmly up over the abdomen, and other marks of deformity."[‖] M. Puzos lays great stress upon the stillness or feeble movements of the child, the enormous size of the abdomen, without an equal amount of œdema of the thighs and legs, and the trifling disturbance of respiration.[¶]

It may be distinguished from *ascites* by the signs of pregnancy. If

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[*] Med. Times and Gaz., May 17, 1856.

[†] Ibid. Aug. 2, 1856.

[‡] Ibid. Aug. 16, 1856.

[§] Amer. Jour. of Med. Science, 1852.

[‖] Midwifery, p. 242.

[¶] Traitè des Accouch. p. 89.

we find the defined uterine tumor, "ballottement," and the chan
the breasts, we can have no doubt of its being more than ascites.

521. *Treatment.*—It does not appear that this disease is r
under the control of medicine. Various means are recommended,
with the hope of curing than for the purpose of mitigating certain
tressing symptoms, or improving the general health. If the pa
be feverish, or if there be much pain in the uterus, the abstracti
a few ounces of blood from the arm, or by cupping from the sac
will be found beneficial.* Tonics have been used with benefit t
health. Diuretics seem to have failed completely. Some good
be done by restricting the patient to a dry diet. Dr. Burns sp
rather favorably of the use of the cold bath. If there be any susp
of a syphilitic origin, it may be well to submit both parents to a
course of mercury, "conducted prudently." Should the distensi
enormous, and the distress very great, we shall be justified in ha
recourse to the induction of premature labor, especially because in
cases the child is generally lost when left to nature. Whilst
operation is in our power, it appears to me quite unjustifiable to
recourse to abdominal paracentesis, as recommended by some auth

522. As to the treatment when this extreme distension impede
first stage of labor, the remedy is simple. When we are quite s
fied of the nature of the case, and that undue delay will be the r
the membranes must be ruptured, and if possible so as to secur
gradual dribbling away of the liquor amonii, rather than its su
evacuation. If the os uteri be not soft and dilatable, or dilated
absence of the bag of the waters will occasion some trifling delay,
it will be necessary to watch the case carefully, lest in the empty
flaccid condition of the uterus, hemorrhage should take place. I
pains be deficient, or there be a threatening of hemorrhage, a good
of ergot may be given, provided that the presentation be natural
the passages of ample dimensions.

When the contents of the uterus have been evacuated, an
patient is convalescent, we should very carefully consider whethe
thing can be done to prevent the recurrence of the disease.

If there be any suspicion of syphilis, mercury must of course be
Probably, in ordinary cases, more benefit will be derived from cou
irritation to the sacrum, and vaginal injections of cold water, o
use of the bidet, than from any other treatment.

Professor Burns says, "when it proceeds from some latent ca
think it useful for preventing a repetition of the disease, to mak
mother nurse, even although her child be dead."

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* Burns' Midwifery, p. 243.

† Desmarais, in Recueil Period. vol. vi. p. 349; and also B
locque's Memoires, in same volume.

CHAPTER VI.

RHEUMATISM OF THE UTERUS.

523. Rheumatism of the uterus has been but slightly noticed in these countries; it is mentioned as long ago as 1685 by Dr. Charlton in his essay "*Inquisitio de Causis Catameniorum et Uteri Rheumatismo.*" Recently, Dr. Rigby* has described it as affecting the unimpregnated uterus and ovaries; and in America, Dr. Isaac Taylor, of New York, has published a very valuable paper on the subject.† On the continent I find more frequent allusion to it; both MM. Alphonse le Roi and Chambon appear to have observed it, without, however entering very minutely into the subject. In Germany it has been described by Wigand,‡ Carus,§ Schmidtmuller,‖ Joerg, Velten,¶ Haase,** Betschler,†† Henne,‡‡ Busch,§§ and Witcke. In France, M. Dezeimeris‖‖ has published some very able papers, and M. Cazeaux enters pretty fully into the subject.¶¶ Of these researches I have freely availed myself in this chapter.

524. "Rheumatism," says Wigand, "may attack the fibres of the uterus as well as the muscles and their sheaths, marking its presence, as in other parts, by pain, the effect of which is to impede the contractility and motion; by increase of heat, swelling, &c. Along with rheumatism of the uterus, there sometimes exists a general affection of the same nature; but more frequently the uterus, its appendages, and the organs immediately surrounding it are affected, owing to its great irritability during gestation." The unimpregnated womb may be the subject of this diease, according to Radamel, but we have now to consider it as affecting that organ during pregnancy. It may occur at any period of gestation, but is much more frequent towards the termination, when the uterus has acquired its maximum distension. There

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* Med. Times, 1844-5. Essay on Dysmenorrhœa.

† Amer. Journ. of Med. Science, July 1845, p. 45.

‡ Beitrage zur theorischen und pratischen Geburtshülfe, &c.

§ Diss. de Uteri Rheumatismo. Gynœcologie, vol. ii. p. 232.

‖ Handbuch d[illegible]. Geburtshülfe, vol. i. book i. ch. vii.

[illegible]823, vol. xiv. p. 537.

[illegible]kunde, vol. iv. p. 435; vol. vii. p. 7.

[illegible] Anstalten der Universität der Breslau, &c.

[illegible]viii. p. 161.

[illegible]inik an dem König. Fred. Wilh. Univers.

[illegible] June, 1839.

[illegible] Pratique de l'Art des Accouchemens,

can be but little doubt that many examples of what are calle
pains are in truth instances of this rheumatic affection of the wo

525. *Causes.*—Probably the principal of these is cold, acting u
organ whose nervous power and consequent irritability have b
greatly increased. M. Cazeaux remarks that "all such circums
as are favourable to the development of rheumatic affections,
likewise lead to an attack of rheumatism of the uterus. Thus,
sure, whether momentary or prolonged, to dampness or cold, i
cient clothing, sudden transposition from an elevated to a ver
temperature, and all other causes, constitutional and atmos
regarded by medical authors as occasional or predisposing cau
rheumatism, may also produce that of the uterus. But besides
general causes, there is one peculiar to the malady under consider
I allude to the facility with which this organ, under the thinn
teguments of the abdomen, feels the impression of cold in the
months of pregnancy; the abdomen being guarded where it en
the uterus by extremely light garments, which are closely in c
with it, and the lombo-sacral region being often badly protect
jackets of insufficient length."* Wigand, Joerg, and Busch ha
marked that the figure of pregnant women, by projecting the c
from the lower part of the body, is a peculiar cause of cold.
affection was observed by Velten during a general epidemic of
matism.† It occasionally attacks persons who are liable to nep
and may co-exist with an attack of rheumatism generally, alt
the uterus and adjoining structures are more commonly affected

526. *Symptoms.*—If the attack be mild, the patient will com
of sudden shooting pains in the region of the uterus, coming
paroxysms, with intervals of more or less complete ease. In
cases the spasm is limited to small space; in others it effects the
generally.

If it be more severe, it may be preceded by headache, uneas
giddiness, and general irritability. Suddenly, without apparent
the patient will be seized with severe pain in the region of the u
of a spasmodic character, with distinct contractions of the uterus
so much suffering during the whole of their duration, as will d
guish them from real labor pains. Wigand says that there
dilatation of the neck of the uterus; but in this Carus differs
him, and points out the possibility of mistaking rheumatism fo
commencement of labor. It does not follow, however, that th
pulsive efforts thus inauspiciously begun will continue; thou
neglected, abortion or premature delivery has sometimes res
"Whatever be the mode of its onset," says M. Cazeaux, "the
order is easily recognised by very decided characteristic features.

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* Traite, &c. p. 689. Meig's Trans. of Colombat. p. 287.

† Rush's Mag. für die. gesam. Heilkunde, 1823, vol. xiv. p. 5

principal symptom is pain; where not the least violence has been offered to the organ, the womb becomes the seat of a general or partial pain, the intensity of which varies from the very slightest sense of weight up to the most insupportable agony. It may effect the uterus wholly, or only attack some particular part of it, as the orifice, the cervix, or the fundus. When the rheumatism is fixed in the fundus only, the pain is felt in the region above the umbilicus. It is increased by pressure, by the contraction of the abdominal muscles, and sometimes by the mere weight of the clothes; the patient is often unable to move; if the disorder be seated lower down, there are shooting pains that run from the loins towards the pelvis, the thighs, the external genitals, and the sacral region along the ligaments of the uterus. Lastly, when the cervix is the part affected, it may be known by the vaginal "*toucher*," which gives rise to excessive suffering. But of all the cases which increase the pain, none is so distressing as the incessant motions of the child. Like other rheumatic pains, those of the womb are moveable, and are observed occasionally to pass suddenly from one portion of the organ to the other. They often suddenly cease, and proceed to attack some other organ. This is most likely to happen when the uterine rheumatism has been preceded by a fixed pain in some other part of the body, and when remedies are used likely to recall the pain to its original seat. These pains are characterised by frequent exacerbations, which are variable as to their duration and intensity, according to the stage of the disease; they are succeeded by remissions, during which the patient complains of little but a vague sense of weight." The irritation is not, however, confined to the uterus, but extends to the adjacent viscera. Distress is felt in the bladder, accompanied by a frequent and urgent desire to pass water, and with pain when the desire is gratified. The intestines, also sometimes sympathize with the womb; and then the patient may suffer from colic, or diarrhœa, or both. The motions of the child are a source of great torment, owing to the increased sensibility of the womb, and from some sympathy (it may be supposed) with the mother, it not unfrequently happens that these motions are peculiarly lively. Joerg has remarked that the child is less frequently injured by rheumatism than by simple inflammation of the uterus.

In the mild form there is little or no impression made upon the constitution; but the more severe attack occasions great disturbance. The pulse is quickened, and the skin made hot; the patient is sleepless and restless. Nauche adds, that the irregular contraction of the womb is sometimes extended to the limbs.

527. Two very important points remain for investigation, viz.—the influence of this disorder upon the progress of pregnancy, and upon parturition; and here I shall avail myself freely of M. Cazeaux's researches. As to the first point, he remarks: "When the attacks have persisted for a very long time, or where they have been very violent, they are followed by uterine contractions, and may in this way

bring on premature delivery. In such a case, the patient suffers
severe tensive pain. This feeling of tension is not equable, for it
to a great height, and then subsides, to begin again, and pursu
same course at intervals. At first the womb becomes partially
afterwards universally hardened during the pain. The cervix be
rigid, and partially dilated; but its dilation is at first slow and
cult, and its subsequent progress does not correspond with the p
the pains. The abortion with which the patient is now menac
more apt to occur in the febrile than in the apyretic form. I
abortion is not so common as might be presumed. In some inst
the os uteri has been observed to dilate to the extent of two or
centimetres in diameter, the bag of the waters has been formed
afterwards withdrawn little by little, the orifice closing again, a
symptoms of labor wholly disappearing. As long as the diame
the os uteri does not reach the extent of five centimetres, we
reasonably hope to put off the labor. These uterine rheumatic
may stimulate labor pains, and lead to the belief that they ar
labor pains when in fact they are not so."

528. What influence has an attack of rheumatism upon la
M. Cazeaux states that it generally retards its progress, and s
times even renders the spontaneous expulsion of the fœtus wholl
possible. In addition to the general phenomena I have desc
there are some special ones to be met with. 1st. It is well k
that a normal contraction does not begin to be painful until it ha
complished the greater part of its task, and is in the act of dil
and distending the os uteri; in other words, the true pains of
do not begin until the force of the body of the womb begins to
come the resistance of the cervix. In rheumatism of the wom
the contrary, the uterine contraction is painful from the comm
ment, and before the least power is exerted upon the neck, so tha
cause of the pain is not in the violent distensions of the orifice, b
the contraction itself, in other morbid circumstances, and in oth
lations of the nerves and contractile fibres of the womb. 2
natural labor the contractions commence at the fundus uteri, an
directed towards the lower segment. In rheumatism, instead of
mencing at the fundus, they commence at the painful part, and
towards the cervix in an irregular manner. Again, the pain
before the contractions of the womb; and under their influence,
they are established, acquires a high degree of intensity. Its vi
sometimes arrests the contractions before they have run through
ordinary cycle. They are in such a case brisk, short, and grow
and less frequent. 3rd. Towards the close of the labor, whe
action of the womb requires to be sustained by the voluntary con
tion of the abdominal muscles, the woman, from fear of increasin
sufferings, refrains from contracting the abdominal muscles, v
causes the labor to be excessively slow. The patient is in a st
extreme anxiety; the frequent pulse, the hot skin, the thirst

urinary tenesmus, are much augmented. When the sufferings are too much protracted, she at last falls into a collapse (which is often a fortunate event), during which the pain is suspended. Under these circumstances a profuse sweat has been observed, which has had the happiest effect upon the rest of the labor. But in other instances, the womb grows more and more painful; it is rather in a state of permanent contraction, or fibrilar vibration, than of real contraction; the pulse becomes accelerated, and then the womb comes under the influence of a metritis, which renders the labor extremely painful.

Nor do the painful effects of rheumatism terminate with the birth of the child. The womb does not completely contract after the expulsion of the placenta, but remains larger than usual above the pubis, so that there is some danger of flooding. The after-pains are very severe and long continued, and the secretion of milk is often scanty.

529. *Diagnosis.*—1. It is of great importance to distinguish an attack of rheumatism of the uterus from inflammation; and, at first sight, it is not always easy to do so. Generally speaking, rheumatism sets in more suddenly than hysteritis, occurs more commonly in paroxysms, and the pain is more diffused. In metritis the disease is frequently partial, and the tenderness more limited. There is also more constitutional disturbance. Notwithstanding, the diagnosis, as Dr. Dewees remarks, is often very difficult. He lays some stress upon the results of the "*toucher*." "In both maladies," he says, "the *touch* is at first painful; in metritis and metro-peritonitis it is so under all circumstances; but in rheumatismus uteri, though the first touch of the womb is painful and *quick*, yet when the organ is slowly raised upwards with the index and medius, the pain either ceases wholly, or is much mitigated by taking off in this way tenesmus uteri; not so in the inflammation, where every touch is more painful the more it is prolonged."*

2. Dr. Isaac Taylor, of New York, to whose valuable essay I have already referred, thinks that it may be distinguished from *neuralgia* of the uterus, by the fact that the latter is more generally periodic in its character, the remissions being longer and more decided. The pain also is lancinating, and chiefly confined to certain points. The patient is both able and willing to move about; the abdomen is not universally tender, neither is the distress of countenance so great as in the rheumatic affection.†

3. Wigand and Dezeimeris‡ have remarked that an attack very similar in symptoms to rheumatism of the womb occasionally occurs just before labor comes on; and, notwithstanding, the labor is easy and natural. In such cases it has been concluded that the bladder, and

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* Trans. of Colombat on Diseases of Females, p. 291.

† Amer. Journ. of Med. Sciences, July 1845, p. 45.

‡ L'Experience, p. 144, June 1839.

other parts adjacent to the womb, have been affected, but not the womb itself.

4. Spurious labor pains have some resemblance to rheumatic pains, but differ from them in occasioning no pain on motion, nor any constitutional disturbance; moreover, they are temporary, and easily relieved by a purgative followed by an opiate.

530. *Prognosis.*—As far as the mother's life is concerned, the prognosis is favourable; but the suffering and general disturbance being considerable, it greatly interferes with comfort, or even health. It may also, when severe, bring on labor prematurely, or interfere with the natural powers at the time of parturition. M. Cazeaux thinks the disorder less favourable at an early than a late period of gestation.

531. *Treatment.*—Our principal reliance must be placed upon moderate antiphlogistic measures, aided by sedatives and diaphoretics. If there be much feverishness, or if the pain be excessive, and nothing in the patient's condition forbid it, blood may be drawn from the arm, in amount varying from 6 or 8oz. to 12 or 14 oz.

After this, a gentle diaphoretic may be given at intervals during the day, and at bed-time it may be combined with an anodyne. Dover's powders answers both purposes exceedingly well. If the pain be severe, it will be necessary to give anodynes in considerable doses, and perhaps the best mode of administration is in the form of enemata. An opium or belladonna plaster to the abdomen will be found useful according to Wigand; but we must carefully avoid the impression of cold. Counter-irritation to the sacrum has been recommended. The bowels must be kept free by warm general laxatives.

In addition to this exhibition of medicines, the patient must be warmly clothed. The bed in which she lies must be kept comfortably warm; warm flannel should be applied to the abdomen, and round the hips, and bottles of hot water or hot bricks applied to the feet. A warm drink of whey or other bland fluid should be given occasionally, especially at bed-time. The diet should be light and nourishing, but without stimulants.

In a report of the Berlin Lying-in Charity, by Professor Busch, it is stated that it had been found necessary to induce premature labor in consequence of rheumatism of the uterus. Such cases, however, must be extremely rare.

When the disease is present during labor, a modification of the foregoing treatment will be necessary; bleeding, opiates, and sudorifics, to a suitable extent, being our chief resources. If the uterine power be suspended, or the second stage unduly prolonged, it may perhaps be necessary to have recourse to artificial assistance.

After delivery, M. Cazeaux recommends "sudorific drinks, anointing the abdomen with opiated ointments, baths, leeches to the vulva, and when the lochial discharge has failed, Dover's powder."

CHAPTER VII.

INFLAMMATION OF THE UTERUS. HYSTERITIS.

532. I HAVE already described inflammation of the womb, as it occurs in the unimpregnated uterus, and must hereafter describe puerperal hysteritis; so that were it not for some practical differences, I should scarcely have thought it worth while to occupy another chapter with it. But there are some peculiarities about the disease, in pregnant women, which demand a careful notice.

As we might expect from the anatomical and physiological changes which take place after conception, and especially from the higher degree of irritability which the uterus acquires, the occurrence of inflammation is much more frequent during gestation than in the unimpregnated state, though less so than after delivery.* It would seem that females of a sanguine temperament are most liable to its attacks. The disease very seldom occupies the entire uterus, except in the very early months; subsequently, the more advanced the pregnancy the more limited is the affection.† It is generally seated in some portion of the body or fundus, often in that part to which the placenta is attached, and at a late period only, in the lower portions or cervix, owing probably to the pressure against the upper outlet of the pelvis. That this portion should be less frequently the seat of inflammation, might be anticipated from its lower degree of vascularity and irritability, and it is worthy of remark, that the os uteri is seldom, if ever, closed in consequence. The seat of inflammation is the muscular tissue of the womb, though the other tissues may be involved. The character of the inflammation has been variously described, but I do not know that these varieties are sufficiently ascertained to be of any practical value. Professor Siebold remarks, that "the seat of inflammation of the impregnated uterus is either the external or internal membrane, or the muscular tissue. In the first case, the inflammation is more of an erysipelatous character; in the latter, of a rheumatic or phlegmonous. The attack also may be either idiopathic or symptomatic."‡

533. *Causes.*—Cold, mechanical injury, &c. may give rise to it; or the inflammation may extend itself from neighbouring organs.

534. *Symptoms.*—The patient complains of a severe and constant pain or stitch in some part of the abdominal tumor, limited generally

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* Joerg: Krankheiten des Weibes, p. 470.

† Siebold: Frauenzimmerkrankheiten, vol. ii. p. 350. Busch: Handbuch der Entbindungskunst, p. 276.

‡ Frauenzimmerkrankheiten, vol. ii. p. 350.

to a small space; tender on pressure, increased upon walking and by the movements of the child. The pain does not come on in paroxysms. It sometimes extends to the back and groins. Should the inflammation occupy the lower part of the uterus, the bladder or rectum may be affected, and dysuria or a frequent desire to void urine; diarrhœa, and pain on going to stool, be the consequence. The constitution is often considerably affected, the pulse is quickened, the skin hot, there is much thirst, with vomiting, &c.

If the disease be very limited, the child may escape injury, and gestation be completed; but if more extended, the fœtus will probably perish in utero, or be prematurely expelled.

Unless the disease be completely cured, and the tissue of the womb restored to its healthy condition, the consequences during parturition may be very serious. Dr. Gason, of Enniskerry, informed me that he had met with three cases of inflammation attacking some part of the womb during pregnancy; and that in these three cases, rupture took place during labor in the exact spot previously diseased.* As showing the importance of these local inflammations during pregnancy, I may quote from Dr. Edward Murphy's valuable paper on rupture of the uterus, one of his conclusions: "that in most instances where it occurs, it may be traced to morbid lesions, either previously existing, or produced by inflammation," &c.†

535. *Pathology and terminations.*—The pathological changes consequent upon inflammation of this organ are best shown by pointing out the different terminations.

1. It may terminate in resolution, and the woman go the full time, and be safely delivered.

2. It may terminate in the effusion of lymph, firmly uniting the placenta to the uterus, and after delivery, requiring its manual separation from that organ. The coincidence of the inflamed spot, and the implantation of the placenta, may be always ascertained by the stethescope, unless they be situated posteriorly. The same means may enable us to ascertain that they do not correspond, and this may relieve our minds of all fear of a retained placenta after delivery. I may, perhaps, be excused for quoting the following case, on account of the admirable illustration it affords of the effects of inflammation:—"Mrs. M., about 30 years of age, was confined on the 6th of November, 1837, of her seventh child, after a very easy labor. In the early months of her pregnancy, she received, when in bed, a severe kick on the pubic region from one of her children, which occasioned great local pain. Within twenty-four hours, uterine action supervened, and considerable hemor-

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* See also Dr. Spark's case, Med. Gazette, vol. iii. p. 218. Mr. Else's case, Med. Gazette, vol. ii. p. 400.

† Dublin Journal, vol. vii. pp. 210, 215, 218, 219, 222.

rhage *per vaginam* took place on the following day. She was bled at the arm by Mr. Monteith, and underwent very active treatment, which was found necessary for allaying the inflammatory symptoms which arose, and for preventing the miscarriage with which she was threatened. She was long confined to bed, and was never free from a burning hot pain in the uterine region during the whole course of pregnancy." The child was born three hours before Mr. Renton saw her, but the placenta was retained. "Externally the uterus felt very irregularly contracted, bulky, and flaccid, extending from the pubis to the *scrobiculus cordis*." On examining internally, it was discovered that "about one-fourth of its (the placenta's) lower portion was detached, and the remaining part adhered, not closely and intimately, but by means of detached bands from below the middle, along the anterior wall of the uterus, which was puckered transversely and very irregularly, forming a striking contrast to the posterior side, which was uniformly smooth and free from contraction, firm, and greatly thickened." "The uterine bands felt like dense cellular membrane, and of the consistency of those adhesions by which the *pleura pulmonalis* is connected to the *pleura costalis* after inflammatory attacks."*

3. It may terminate in a *softening* of the tissue at the part affected without any morbid change.† At a meeting of the Pathological Society of Dublin, Jan. 26, 1839. "Dr. E. Kennedy presented a specimen of '*softening of the uterus*,' taken from the body of a female who died on the day of her admission into the Lying-in-Hospital, and without having presented any remarkable symptom, except pain at the upper and inner part of the thigh, where a slight redness was observable. The Cæsarian section was performed, but the child was found dead, though perfectly formed. On dividing the parietes of the abdomen, the uterus appeared a deep purple, or almost black color; its texture was remarkably soft, and its mucous surface covered with grumous blood."‡

4. An *abscess* may be formed in the uterine tissue, as mentioned by Siebold and Busch, which may open into the uterine cavity, or perforate the bladder or rectum, and so be evacuated by their natural outlets. It may also be effused into the abdominal cavity, and either be absorbed, or, sinking down into the pelvis, form a soft tumor between the uterus and rectum. After the escape of the matter, the abscess may heal, or it may remain an open ulcer.

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* Mr. Renton's Paper on "Adhesion of the Placenta to the Uterine Surface," in the Edin. Journ. April, 1839, p. 397. See also Denman, Merriman, Ramsbotham, &c.

† Murphy: Dublin Journal of Med. Science, vol. vii. pp. 218, 219, 222.

‡ Ibid. May, 1831, p. 290.

5. *Gangrene.*—This is not a very frequent termination, thou
occurs, and of course it is a most fatal one. It has been describ
German writers under the title of Putrescenz,* or Putrescirung, (
Uterus,†

536. *Diagnosis.*—When inflammation attacks the impreg
uterus, we have the advantage (at least for the greater part of
tion) of being able to examine the affected parts manually, whi
cannot do when the uterus remains of the ordinary size, and i
cealed in the pelvis. This will add to the facility of diagnosi
with other signs may enable us to detect it.

1. From *rheumatism.* Although in both there is pain and te
ness on pressure, yet in rheumatism the pain is more in parox
and the tenderness less circumscribed, than in inflammation.
constitution, too, suffers more when the uterus is inflamed.
cause will also sometimes clear up the diagnosis.

2. From *peritonitis.* Should the peritoneal covering of the
alone be inflamed, no doubt, at first it would be difficult, if no
possible, to distinguish it from inflammation of the deeper ti
but the peritonitis would soon spread over the abdominal vi
instead of continuing in one limited spot; and besides, the tend
on pressure is more superficial, and more acute in inflammation
serous membrane, than of the muscular tissue. In general perit
the tenderness is universal; whilst in the disease we are co
plating, the tenderness is quite local and limited.

3. It may be distinguished from inflammation of the other ab
nal organs by its local signs, and by the absence of their pe
symptoms.

537. *Prognosis.*—It will be necessary to give a very guarded
nosis, as some of the terminations and consequences of even ci
scribed inflammation may be very serious. If, however, the pla
souffle should be heard at a distance from the affected part, we sh
relieved of part of our fears; the normal connection between the
and placenta will not be altered.

538. *Treatment.*—The disease being most generally limit
extent, it will probably be sufficient if we apply leeches, w
having recourse to venesection, though this must not be omi
necessary.

Leeches, then, in sufficient quantity, are to be applied
affected part, and repeated if the tenderness and pain continue.

At the same time, calomel and opium, in moderate doses,
be given; and it may be requisite sometimes to touch the gums

Hip baths have been found useful, but our employment of the depend a good deal upon the period of pregnancy, and the threatening of labor or not.

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* Ricker: Siebold's Journal für die Geburtshülfe, &c. vol. xi.

† Boer: Naiürliche Geburtshülfe, &c. vol. i. p. 202.

Anodyne clysters may be given for the relief of the pain, and for procuring rest. When the acute stage has passed, much benefit will be derived from blisters, either repeated or kept open.

Stimulating and anodyne liniments have also been recommended.

If we suspect the formation of matter, we may find it necessary to give quinine, and to support the patient's strength by nutritious diet. If the purulent deposit be in the neck of the womb, we are advised to evacuate it by the aid of Savigny's fistula knife, or Osiander's hysterotome.* If the matter escape by any other outlet, we must treat the case according to circumstances.

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* Siebold's Frauenzimmerkrankheiten, vol. ii. p. 364.

SECTION II.—DISORDERS OF SYMPATHETIC IRRITATION.

539. I SHALL commence the consideration of this class of diseases with those of the chylopoietic viscera, as being the first which exhibit the disturbance occasioned by conception, and then proceed to investigate the sympathetic or reflex-irritations of the circulating, respiratory, and nervous systems, and lastly, those of the breasts.

I.—DISORDERS OF THE CHYLOPOIETIC VISCERA.

CHAPTER I.

TOOTH-ACHE. SALIVATION. CAPRICIOUS APPETITE.

540. I. TOOTHACHE.—Pain along the jaw, or in individual teeth, is of frequent occurrence with pregnant women.* It is more common in the earlier months, and with some it is the first indication of conception. I have known several cases of this kind. Dr. Campbell observes that, "generally speaking, this is a complaint of the earlier months, but patients have attacks of it throughout the whole period of pregnancy. Sometimes it never occurs till within two or three days of the commencement of labor. This is often a purely sympathetic affection; it is excited through the influence of the uterine on the nervous system. There is not a more fertile source of tooth-ache than torpid bowels."† And M. Capuron, that "certain women suffer from toothache as soon as they have conceived, and even recognize their condition by this symptom. The pain varies in degree, and at different times; sometimes dull and aching, it may disappear at intervals; at other

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* Denman's Introduction, p. 161. Davis's Obstetric Medicine, vol. ii. p. 900. Blundell's Obstetricy, p. 201.

† Midwifery, p. 518.

times acute and piercing, it may continue night and day. Then the sleep is lost, the appetite diminishes, digestion is impaired, the patient becomes feverish, and sometimes abortion occurs."*

The pain may be either continuous, with but few and short intervals, or it may occur in paroxysms. It is not true, however, as has been observed, that the pain is purely neuralgic in all cases; it is often connected with caries of the teeth. A patient of mine lost nearly all her teeth in successive pregnancies, but suffered little or nothing during the intervals. Its effects upon the comfort and well-being of the patient are often very distressing; she loses her sleep, the appetite is lessened, digestion is impaired, and if not relieved, abortion may result.

541. *Causes.*—Strictly speaking, it is no doubt one of the reflex-irritations of pregnancy, originating in the altered state of the womb, and directed, by what means we know not, upon this part. It may arise from, or be accompanied by inflammation of the gums, or it may form a part of a general catarrhal affection. No doubt that the presence of a carious tooth will predispose the patient to an attack. As M. Gardien has remarked: "Tooth-ache may depend upon different causes; it may be the result of plethora, or the consequence of a catarrhal affection. The state of the stomach, or an affection of some distant part, may also give rise to it. Sometimes it arises from caries, at others it is merely a dental neuralgia."†

542. *Diagnosis.*—It will be of some consequence to the treatment to establish an accurate diagnosis. The point to be settled is whether the attack be neuralgic, inflammatory, or arising from organic disease of the tooth; and to satisfy ourselves, a very careful examination of the mouth must be made, and the state of the mucous membrane of the mouth, and the general health be investigated. The probability of pregnancy, and the occurrence of tooth-ache in other pregnancies, will materially aid us in determining the character of the present attack.

543. *Treatment.* Our first object, then, is to determine the character of the complaint. If we decide that it is neuralgic, we may try any of the essential oils, as cloves, peppermint, cinnamon, &c. A little alcohol, held in the mouth at the affected side, will sometimes afford relief. Fomentations are equally useful, especially when the whole jaw is painful. The effects of opium vary a good deal—it often relieves the pain, or lessens it, but sometimes fails. Creosote is often a valuable remedy. Gardien speaks highly of the extract of the seeds of stramonium. Dr. Blundell says, "The volatile tincture of valerian bark, and carbonate of iron, are the principal remedies here. I was once called to a Greek lady, a Smyrniote, at the other end of the town, suffering violently from this disease, night after night, so that she

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* Mal. des Femmes, p. 357.

† Traitè des Accouchemens, vol. ii. p. 66.

could get no rest. All the ordinary remedies had been tried, in ordinery doses, but in vain. I gave her the volatile tincture of valerian, and bark, as largely as the stomach could bear, and with the effect of arresting the disease, so that throughout the remainder of her gestation she continued almost entirely free."*

Counter-irritation externally, by a small blister to the temple or behind the ears, is occasionally of use; though, as Gardien remarks, it not unfrequently fails in cases of neuralgia. This list of remedies might easily be lengthened, but I prefer enumerating the principal ones, and leaving it to each person's experience to modify the general principle according to the individual case. After all our endeavours, we shall find ourselves in many instances unsuccessful; but then, on the one hand, it often disappears spontaneously. "We have seen," says M. Capuron, "tooth-ache, amenable to no remedies, spontaneously disappear towards the third or fourth month of pregnancy."

If the gum be inflamed, it will be advisable to scarify it, or to apply leeches internally or externally. When the patient is hot, restless, and feverish, moderate general bleeding has been found beneficial. The loss of blood should be followed by hot fomentations to the face, and the holding of warm water in the mouth. A purgative, with some mild medicine, according to the state of the stomach and bowels, should be exhibited.

When the tooth-ache is a consequence of a more general catarrhal affection, stimulating applications, or sialagogues, as they are termed, are useful. A small portion of the radix pyrethri, or of tobacco, or a stimulating lotion, may be used, and often with complete success. Blisters have also been recommended. If the catarrhal affection be acute or extensive, it may be necessary to commence by taking away some blood; but, generally speaking, this is unnecessary.

Many of the remedies already enumerated may be tried with carious teeth—such as the essential oils, tobacco, opium, creosote; and to them may be added nitric acid, and the application of a red hot knitting-needle to the hollow in the tooth. But if all these remedies fail, as fail they often will, are we then to extract the tooth? Some authorities decide one way, some the other. Dr. Burns says, "I have known the extraction followed in a few minutes by abortion." Dr. Blundell would not extract, because he considers the attack neuralgic. Dr. Campbell is in favour of extraction, seeing more probability of abortion in continued pain. He says: "When the tooth is carious, however, no permanent advantage can be derived from any remedy but nitric acid and extraction. In a habit predisposed to abortion, it is said that the removal of a tooth is apt to occasion this accident; but I have never seen premature uterine action induced by it; while, as is well known, abortion has been excited by violent and long continued odontalgia."* Capuron agrees with him, and so does M. Gardien—adding, however, that if after extracting two or three teeth, the pain be not relieved, we had better stop. It is not always easy to decide in such cases: no doubt the shock of the operation may be followed by abortion, and as a general rule I would prefer that the attempt should not be made. But, on the other hand, if the pain be severe and constant, if the patient lose her rest, and the constitution sympathize much, and no relief be afforded by the means already recommended, I then should be inclined to consent, provided the tooth be really diseased.

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* Principles and Practice of Obstetricy, p. 201.

† Mal. des Femmes, p. 361.

544. II. SALIVATION.—It is difficult to explain the sympathy between the uterus and salivary apparatus, though there is abundant evidence of its existence. Salivation, though not very frequent, is yet sufficiently so to have been set down among the signs of pregnancy. It is mentioned by Hippocrates, and has been noticed since his time by Van Swieten,† Rœderer,‡ Capuron,§ Gardien,‖ Imbert,¶ Burns,** Blundell,†† Campbell,‡‡ Montgomery,§§ Dewees,‖‖ &c. The latter author relates the following case: "We were called upon to prescribe for Mrs. J., who was advanced to the fifth month of her pregnancy. At the second month she was attacked by a profuse salivation; she discharged daily from one to three quarts of saliva, and was at the same time harassed by incessant nausea and frequent vomitings: so irritable was the stomach, that it rejected, almost instantly, anything that was put into it. She now became extremely debilitated—so much so as to be unable to keep out of bed; and when she did attempt to sit up, she would almost instantly faint, if not instantly replaced. From a belief that the affection might be local, astringent gargles were freely employed, but with marked disadvantage. A large blister was next applied to the back of the neck, with decided but transient benefit—that is, the salivary discharge was less, the nausea diminished, and the vomiting less frequent; but this favorable impression was but of three or four days' duration; for after this time, all the unpleasant

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* Midwifery, p. 519.
† Commentaries, vol. xiii. p. 271.
‡ Elementa, p. 45.
§ Mal. des Femmes, p. 316.
‖ Mal. des Femmes, vol. ii. p. 32.
¶ Mal. des Femmes, vol. i. p. 396.
** Principles of Midwifery, p. 267.
†† Princ. and Pract. of Obstetricy, p. 202.
‡‡ Midwifery, p. 519.
§§ Signs of Pregnancy, p. 55.
‖‖ Midwifery, p. 115.

symptoms returned with their former severity. An emetic
cuanha was now exhibited, followed by a cathartic of rhu
magnesia, without the smallest benefit;—soda water, lime v
milk, milk itself, &c. were in turn unavailingly employed.
put our patient upon a strictly animal diet, and ordered 10
laudanum morning and evening, and 15 at bed-time: this
ceeded most perfectly in the course of a few days; nausea and
ceased, and the discharge was reduced to less than a pint p
and perhaps the force of habit had no inconsiderable agen
production of this quantity. The bowels during this plan v
open by the extract of butternut and rhubarb, in the form
This lady never had any return of this complaint in her su
pregnancies."

It generally occurs at a very early period of gestation, and r
or abate about the third or fourth month. It sometimes,
continues throughout the entire period, as in one case under
It almost always ceases immediately after delivery, though ca
record where it continued a month or two afterwards.* It i
that it may be somewhat dependant upon the constitution
this is not clearly made out. Capuron says that it only occur
of nervous temperaments. It appears to be occasionally of t
of a vicarious discharge.

This is not the place to estimate its value as an evidence
nancy; I must refer the reader to my volume on midwifery.

545. *Causes.*—It appears to be an affection of the saliva
(which are sometimes swollen and tender) principally, in v
mucous membrane of the mouth participates to a certain ext
a case under my care, the left parotid only was affected. T
are neither spongy nor ulcerated. The discharge is general
ordinary quality of the saliva, without fœtor, but sometimes
is unpleasant. Dr. Dewees observes that "it almost alway
unpleasant taste, though not attended with an offensive smell
the stomach in a state of constant irritation, and not unfrequ
vokes puking, especially if the saliva be tenacious, and require
to discharge it. At night it is very often troublesome, int
sleep by the frequency of the necessity of emptying the mout

The quantity varies from somewhat above the ordinary a
several quarts; and from the necessity of frequently emp
mouth, it proves very annoying. I subjoin a case which i
this point very well. "Mrs. Davis, æt. 37, has generally
tolerably good health. She is the mother of three children,
each pregnancy sick head-ache and salivation have troubled
states that with her first child, after being pregnant about o

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* Imbert: Mal. des Femmes, vol. i. p. 396.

† Compendium of Midwifery, p. 115.

she became affected with head-ache, and a large quantity of clear flui like saliva, was continually running from her mouth, so that sometim two or three quarts were spat out during the day. At the expiration of the fourth month, that is to say, after she had quickened, the salivation left her entirely. During the second pregnancy, precisely the same series of symptoms presented themselves, the secretion stopping immediately after quickening. The bowels were generally costive, and great thirst was complained of. No medicines were taken, for sickness prevented her retaining most things on her stomach. During this last gestation, her old complaint had troubled her more than ever; it first appeared about a month after conception. Some days she spat out as much as *four quarts:* never so little as *two quarts.* The quantity averages, indeed, somewhere about *three quarts* daily. After quickening, a diminution took place; no complete cessation, however, was observed, and even during her labor, a pocket-handkerchief was constantly used to absorb the fluid. Immediately after the child was born, the salivation ceased; no vestage of it remains, and she is now quite well in every respect." "The salivation was not produced by any therapeutical agent. The gums were not spongy, neither was the breath offensive."*

When the discharge is moderate, the patient suffers merely inconvenience; but when excessive and long continued, the stomach is weakened and irritated, and sometimes evacuates its contents. The patient complains of weakness, and acidity of stomach. Constipation is very frequently an accompaniment.

546. *Diagnosis.*—The only error in diagnosis into which we could fall, would be that of mistaking the salivation caused by pregnancy for that caused by mercury. The distinction is sufficiently clear in the disease I have been describing; the gums are neither sore, spongy, nor ulcerated, nor is there any fœtor from the mouth. The patient being pregnant will also serve to clear up the diagnosis.

547. *Treatment.*—By several writers, especially the French, we are cautioned against employing any remedies for the purpose of restraining or suppressing the discharge; and Baudelocque relates a case of a lady in whom the suppression was followed by apoplexy.† Murat‡ and Capuron§ adopt M. Baudelocque's opinion, and merely recommended attention to the bowels. The most recent French author has adopted a somewhat different opinion. "The flow of saliva," says M. Imbert, "if not in excess, may be left to nature, but not so if it derange digestion, and weaken the patient."‖ "It is scarcely necessary in any

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* Case by Mr. Gorham, (London) in *Medical Gazette*, June 30, 1838.

† Imbert: Mal. des. Femmes, vol. i. p. 397.

‡ Dict. de Med. vol. xix. p. 450.

§ Capuron: Mal. des Femmes, p. 362.

‖ Mal. des Femmes, vol. i. p. 397.

instance to interfere; but when a practitioner is importuned, from four to six leeches should be applied at different points, from ear to ear; a dose of some mild laxative medicine, such as pulv. rhæi, should be administered every alternate day; while stimuli, whether condiments, food, or cordials, are to be carefully avoided. As a refrigerent and astringent, ten grains of the nitras potassæ in two ounces of water may be ordered once in four hours."*

Of the safety of interfering to this extent, there can be no question, according to the best evidence we possess. Professor Burns speaks very highly of counter-irritation, which I have found very useful. A blister may be applied to the back of the neck, or behind one or both ears.

Gargles of camomile or spearmint infusion are advised by Gardien.† Dr. Fahnestock, of Pennsylvania, recommends an infusion of the inner bark of the rhus glabrum, or sumach, as the best remedy.‡ Dr. Geddings, of Charleston, has found the following remedy generally efficacious:

"℞. Mucilag: Acaciæ ʒviii.
Ol. Terebinth: ℥ii.
M. Usurpetur pro gargarismate, frequenter in die." §

Should the discharge prove obstinate, we may try any of the usual remedies against mercurial salivation; but in spite of all our efforts, it will often persist until it either abates, ceases spontaneously at a later period of gestation, or at its termination.

548. III. Fastidious taste and capricious appetite.—That the functions of an organ so sensitive as the stomach, and so closely connected by sympathy with the uterus, should be variously disturbed, is only what might be expected. In the earlier months, when the sympathetic irritation is most marked, the appetite diminishes, or is altogether lost, and the patient becomes weak and emaciated; but after the third or fourth month, when the stomach is less disturbed, the appetite generally returns, and in some cases becomes voracious.

But a more remarkable peculiarity, and one less explicable, is the depravation of appetite we sometimes meet with, when the patient either utterly repudiates articles of diet of which she was previously fond,‖ or acquires tastes repugnant to her previous habits, or even to common sense. The older writers abound in curious stories of these *longings*, as they are termed, of pregnant women; nor are they unknown in modern times. Roderick a Castro relates a case of a woman who took a fancy to a bit of a baker's shoulder, nor could she be satisfied until the baker's consent was purchased. Langiers mentions a woman whose husband was the object of her depraved appetite, and to gratify herself she killed him, and having made a meal of part, she salted the rest. Others have devoured chalk, broken stones, pepper, ginger, brown paper. For example, the following cases are given by Drs. Dewees, Merriman, and Montgomery:—"We formerly attended a lady with several children who was in the constant habit of eating chalk during her whole time of pregnancy: she used it in such excessive quantities, as to render the bowels almost useless. We have known her many times not to have an evacuation for ten or twelve days together, and then only procured by enemata; and the stools were literally nothing but chalk. Her calculation, we well remember, was *three half pecks* for each pregnancy. She became as white nearly as the substance itself, and it eventually destroyed her, by deranging her stomach so much that it would retain nothing whatever upon it."*

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* Campbell's Midwifery, p. 519.

† Traitè des Accouchemens, vol. ii. p. 32.

‡ Lond. Med. and Surg. Journ. vol. iv. 1830.

§ Ryan's Manual of Midwifery, p. 428.

‖ Campbell's Midwifery, p. 522. Blundell's Obstetricy, p. 166. Montgomery: Signs of Pregnancy, p. 151.

"A young woman, married to a ginger-bread maker, took a fancy, during her first pregnancy, to chew ginger. The quantity of this spice which she thus consumed was estimated at several pounds. She went her full time, and had a favorable labor, but the child was small and meagre; its skin was discolored and rough, much resembling the furfuraceous desquamation that takes place after scarlatina. The child continued in an ill state of health for several weeks, and then died. She had several children afterwards, all healthy and vigorous. The inclination for ginger only prevailed with her first infant." Dr. Merriman relates the case of another patient, who took a fancy for gin and water, which she drank in large quantities. "The child was small and lanky, its voice was weak, its face wrinkled and ghastly, and its belly collapsed: its skin was mahogany-colored, and hung in folds all over the body." It died in convulsions.†

"The writer lately attended, with Dr. Evanson and Dr. Alcock, the post mortem examination of a child which had lived only nine weeks. At birth an unusual fulness was observed about the perineum and anus, which increased rapidly until these parts became greatly protruded, and a tumor was formed, of the size of a very large orange. Convulsions came on, and the child died after much suffering. The tumor, on examination, was a perfect specimen of fungus hæmatodes, and the earliest instance of the disease known to the writer. In this case the mother had indulged, during all the time of her pregnancy, in continually eating brown paper. She had done the same in her former pregnancy, which was her first, and the child was still-born under a foot presentation. I cannot of course undertake to assert that there was certainly a connexion between the effect observed in the child and the depraved appetite of the mother; but the fact appeared to me sufficiently remarkable to be noticed.*

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* Dewees' Comp. of Midwifery, p. 113.

† Synopsis, p. 321.

Some of the cases which are on record are doubtless fabulous, but the others abundantly establish the fact of these extraordinary tastes during gestation, and that they are occasionally carried to such excess as to constitute monomania. The indulgence with which all persons regard pregnant females, together with the belief that an ungratified wish would injure the child, or at least impress an image of the thing longed for upon some part of its body, has led to the unlimited gratification of these desires. Dr. Denman informs us that "in the early part of my own life, nothing was more common than to hear of innumerable examples of the dreadful events which were caused by disappointed longing; or to see instances of the great confusion and distress in families, from a persuasion of its importance. But at the present time, and in this country, the term longing is seldom mentioned, except among the lower class of people; though the cause, if any had existed, must have produced its effects at all times, and in all situations."† It is worthy of notice that the disgusts are not excited after experience of the offensive matters, but are formed without tasting; and are in fact owing to a vitiated taste in the stomach, and not in consequence of any unpleasant effects produced by them.‡ These caprices seem peculiar to the early months of pregnancy; they subside gradually, and rarely continue after the fourth month.

549. *Causes.*—The earliest opinion attributes these disorders to a plethora occasioned by the suppression of the menses; others to the sympathy between the uterus and the stomach; or to the irritation of the nervous system excited by the pregnant uterus, and transmitted to the stomach; and though this expresses the fact accurately enough, yet it is far from satisfactory as an explanation. We may say, in the words of M. Capuron, "Mais cet sympathie qu'est-ella au fond qu'un mot qui cache la defaite des physiologistes, ou plutot leur ignorance sur la cause des phènomènes de l'organisme?" M. Imbert has divided the disorder into three species, according to the proximate cause, viz. —1. "Pica nerveuse." 2. "Pica gastro-intestinale." 3. "Pica plethorique." In some cases he thinks it is scarcely a disease, but an instinct of nature, directing the patient to matters which are required for the nourishment of the fœtus. I have already quoted M. Gardien's opinion, that it is not from sympathy, but from the actual state of the stomach itself. This variance of opinion will at least show the difficulty of explaining the cause of such caprices; nor, while I feel the insufficiency of all that has been offered (except as varied expressions of the same fact), have I anything better to substitute. In the present

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* Montgomery: Signs of Pregnancy, p. 151.

† Introd. to Midwifery, p. 154.

‡ Kennedy on the Evidences of Pregnancy, p. 20.

state of our science, a confession of ignorance is often the first step to knowledge.

550. *Symptoms.*—The disorder itself, as already described, is the most prominent symptom; but the disgust at ordinary food, and the desire for extraordinary substances, is generally accompanied with other evidences of deranged stomach. The tongue is loaded, the mouth filled with viscid saliva, and there are frequent eructations of glairy fluid. The patient is languid and dejected. As a proof that the secretions of the stomach are vitiated, M. Gardien mentions that inflammation, corrosion, and perforation of that organ have been discovered after death.

A very important question arises in these cases, as to the extent to which they may affect the child. Few professional men at the present day are disposed to believe the stories told of "mother's marks" of gooseberries, currants, grapes, &c.; but though our incredulity may be justified so far, we can scarcely suppose that a fœtus may be as well nourished upon chalk, or brown paper, as upon ordinary diet. Those conclusions are, I think, justified by the state of the children in several of the cases related.

551. *Treatment.*—The effects produced on the health of both mother and child are quite sufficient to show, that in yielding to these extreme fancies and caprices, we are incurring mischief instead of avoiding it, and it will consequently be our duty to oppose it firmly: or, in the words of Dr. Merriman, "These cases tend to prove what no man who has had opportunities of observation has ever doubted, that the popular doctrine is false and indefensible, which teaches that pregnant women should be allowed to indulge all the capriciousness and wanton absurdities of their appetites; it being most certain, that however safe and uninjurious some of the articles of diet longed for may be, others cannot be taken without danger of hurting either mother or child."* As to the distaste for certain articles of diet, this may be gratified by avoiding them, as no harm can result. The remedies necessary must be regulated by the period of pregnancy, the temperament of the patient, and her habits. Very little medicine is necessary: the bowels should be kept free, and a light, bitter infusion may be given. Venesection has been recommended in robust women, and baths. Opium and ether have also been found useful. Should the secretions of the stomach be acid, some antacid or absorbent medicines may be exhibited, though I think few will agree to take a passion for eating chalk, plaster, &c. as a natural indication for this line of treatment.

The diet should be bland and nutritious, biscuit being preferable to bread, and the patient should take plenty of exercise in the fresh air.

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* Synopsis of Difficult Parturition, p. 327.

Should all our efforts fail, we need not be altogether discouraged—a little time may effect that which we are unable to do. Most of these fancies abate or disappear after the third or fourth month.

CHAPTER II.

NAUSEA AND VOMITING.

552. In a former chapter, irritability of the stomach has been mentioned as holding a prominent place among the organic sympathies excited by the pregnant uterus. This is shown by the nausea or vomiting which occur during gestation, and which, from the time at which the attack ordinarily takes place, has been termed the "morning sickness," and is popularly considered as a strong evidence of conception. With regard to the period of pregnancy, and the time of the day at which it occurs, there is considerable uncertainty. Generally speaking, about the fourth or fifth week the patient finds her stomach uncomfortable; and on rising in the morning, this discomfort amounts to nausea or vomiting, and efforts are made to evacuate the stomach. Whether successful or not, this state lasts from ten minutes to an hour, and then ceases; and the patient descends to her breakfast, of which she partakes without diminution of appetite, and without subsequent distress. These attacks are renewed every morning, with more or less intensity, for a period of six weeks, or two months, and then they gradually subside, leaving behind them no ill effects. This may be taken as the description of an ordinary and favorable case: but from this type there are many deviations, some of which I shall notice.

1. In some cases vomiting never comes on at all; many such have occurred to me, and must be familiar to all practitioners. In others it commences soon after conception. De la Motte mentions that he has known it commence from the day of conception, and Van Swieten has a similar case. Dr. Montgomery says, "I had once a lady under my care, in whom there was reason to believe that it began the day after conception, and the date of her labor corresponded to such belief. More recently I attended a patient who was married on Monday, and began to be squeamish on Saturday; her delivery took place within nine months."*

2. On the other hand, it may not begin until the two or three latter months of gestation, which is attributed by Gardien to the peculiar position of the womb. He observes, "vomiting occurs sometimes about the seventh month in those women in whom the uterus is very perpendicular ('qui portent leur enfant fort haut'), owing to

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* Signs of Pregnancy, p. 53.

compression of the stomach by this viscus, and this does not usually cease until delivery."*

3. Instead of the patient becoming sick on first rising from her bed, I have known it not to come on until after a meal, and in some cases not until bed-time; in these latter, the sickness continued all night, the patient being pretty well during the day.

4. Again, the *morning* sickness may continue during the whole period of gestation.

5. Lastly, the sickness may commence in the morning and continue throughout the entire day, and be prolonged beyond the usual time for its cessation: in some cases even to the end of gestation.

With the exception of the two last classes, these deviations are comparatively of light importance. I have frequently remarked, however, that when the occurrence of vomiting is irregular, other irregularities occur, as for instance, the period of quickening.

553. But when the irritability of the stomach is extreme and persistent, so as to render it intolerant of food, the case assumes a very different aspect, and may involve serious consequences. The deprivation of nutrition would of itself be a serious loss to a pregnant female; but if we add the presence of a constant irritation, there will result a series of constitutional symptoms which we do not find in ordinary cases, and their severity will bear some proportion to the constancy of the vomiting. Thus, we find these patients become extremely emaciated, exhausted, and depressed, the eyes sunken, the cheeks fallen, and the strength and spirits gone. The pulse is generally permanently quickened, but weak; the tongue dry and furred; the appetite changed to a loathing of all food, and the bowels costive. There is an expression of intense suffering and misery in the patient's countenance, graphically illustrative of her condition. The fluid vomited varies very much; it may be thin, watery, and glairy; or yellow, green, blue, or blackish; depending doubtless upon the peculiar condition of the mucous membrane. Now this excessive vomiting may continue any length of time: in some cases it ceases spontaneously, or, as Dr. Burns mentions, after the death of the fœtus, though this is by no means always the case; or it may continue to the end of gestation, if labor do not occur previously, or if the patient's strength hold out.

But in some cases, if it do not cease, the patient's constitution gives way, and the results are most serious, nay, even fatal, before the completion of gestation. The patient may either die of exhaustion, or be carried off suddenly. I shall adduce some of the cases on record. The particulars of a very interesting case are given by Dr. Davis, from Dr. Haughton's notes:—"Some time ago I was applied to by a lady in the city. In her first and second pregnancy, the sickness was so obstinate that nothing could relieve it but delivery. In one of her gestations she went her full time; in another, only to the seventh month; but on both occasions she was equally relieved by delivery. In her second pregnancy the vomiting had not been extremely violent. When I saw her, it was her fourth pregnancy, and about the sixth month of gestation. The practitioner who attended her had treated her very properly, but without success. I ordered something, but it had no better effect. She was removed into the country, but she went no further than Islington, and she returned without receiving any benefit. She was then in her seventh month—her sickness grew worse, but it underwent some changes; for sometimes it would be very violent, and then it would intermit. The intermission, however, would last but a short time, and then it would end in a violent diarrhœa; and if means were used to stop the looseness, then the sickness immediately returned. In this way she went on until she was very much reduced. During a few days in the progress of this exhaustion, I observed that her strength declined much faster than before; I therefore expressed to her mother my wish to be permitted to invite a tendency to labor. No obstacle was thrown in my way. I put her into a hip bath, but this increased her symptoms, without producing the effect I hoped from it. It was now the middle of the seventh month, and I saw that she could not live till the ninth. I therefore proposed to bring on premature labor: but, not liking to take the whole of the responsibility on myself, I desired the friends to send for some respectable person to meet me. The gentleman who came fell readily into my ideas, but did not see that the danger was so pressing. He therefore thought it better to wait for a fortnight longer. Seeing that this was the only point with him, I urged my own opinion with this argument, viz. which was most likely to estimate the danger correctly? *he*, who had taken a transient view of the case; or *I*, who had watched it day after day? He allowed the strength of the argument, but said he would turn it over in his mind, and meet me again in the evening. At this time, unluckily for the patient, she had retained about half a pound of nourishment, and the sickness had not increased. He thought it proper, therefore, again to defer the operation, although I explained that this was only one of those delusive intervals which terminated in diarrhœa. So indeed it proved; for the next day she was exceedingly ill. I now told him, if he had not made up his mind, that I had. I added, that if he chose to undertake the bringing on of premature labor he might; but I thought the time was past; and so did he. In two days more the patient sunk. Now, I do not think it right to say that this woman would have recovered if premature labor had been brought on in proper time: but it is my opinion, that it would have given her a great chance."* Dr. Ashwell mentions a case related to him by Dr.

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* Traitè des Accouch. vol. ii. p. 49.

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* Obstetric Med. vol. ii. p. 871.

Marshall Hall, which terminated fatally in the seventh monh, in spite of the most judicious treatment.*

The following interesting cases, related by M. Dance, I have taken from the Medico-Chirurgical Review† :—Case 1.—Sophy Pepin, æt 21, meagre, nervous, and irritable, entered the Hotel Dieu, April 15, 1826. Three months and more previously, the catamenia had stopped, and soon afterwards she was affected with weight and pain in the epigastrium, and considerable derangement of the general health. During the preceding two months she was harassed with almost constant vomiting of every thing she took, liquid or solid, attended with rapid emaciation. Yet her tongue was clean and moist, without any redness at the sides. The physician who attended her in the city never perceived any febrile movement in the system. The epigastrium was now devoid of tenderness on pressure, and only a pulsation rather more than natural could be felt; sleep interrupted, habitual constipation, vomiting both night and day indifferently, preceded by a disagreeable sensation of twisting in the epigastrium. The matters ejected were often of a greenish or limpid character, and small in quantity. The patient did not think herself pregnant, and there was no enlargement of the hypogastric region. Leeches—ice, externally and internally—and various other means, had been tried in vain to stop the vomiting. The anti-emetic draught of Riverius was tried on the 16th at the hospital, but ineffectually: opium plaster was applied to the pit of the stomach, with as little success. Twenty other remedies, including leeches and blisters, were put in requisition, without having the slightest effect in checking the vomiting. By the end of May emaciation had made great progress, and now the hypogastrium began to become prominent, and pregnancy was ascertained to exist. On the 2nd of June this afflicted creature ceased to suffer. "*Dissection.*—No lesion could be detected in the stomach, except a slight reddish tint in the mucous membrane. The whole of the intestinal tube was sound. The uterus rose a few inches above the pubes, and its parietes were preternaturally soft and flabby, but without any other appreciable change of structure. The membranes of the fœtus were transparent throughout; but between these and the uterus there were false membranes, forming a layer some lines in thickness, exactly resembling those found between the pleuræ after inflammation. The same was found between the placenta and the uterus, but more of a purulent character." Case 2nd. "Aglâe Leroy, æt. 20 years, not married, became irregular in her menstruation in Nov. 1824, and soon afterwards was troubled with sickness, malaise, cephalalgia, and vomiting of bilious matters. She entered the Hotel Dieu, Dec. 30, 1824, and at this time she was suspected to be pregnant. The vomitings were very frequent, and there was some pain on pressure of the epigastrium, but no fever. The tongue was moist, and slightly red at the sides. She was cupped on the epigastrium, but without any benefit. Various means were employed to allay the vomiting, but they were attended with only temporary relief. In the beginning of February the sickness was as bad as ever. Her stomach would retain no kind of food, and she expired, exhausted, on the 13th of the same month. "*Dissection.*—The emaciation was great; no appreciable lesion in the head or thorax; some red and softened spots near the cardiac orifice of the stomach. The uterus rose some inches above the pubes, and its parietes were exceedingly thin—scarcely a line and a half in thickness. They were also very soft, and gorged with blood. The membranes were transparent; the embryo appeared to be about three months old; and there was no other appearance of disease." I copy the following case from the *Lancet*:—"A lady, æt. 30, soon after marriage ceased to menstruate, and became affected with morning sickness, which symptoms were naturally enough attributed to pregnancy. The sickness, however, gradually became worse, and at last nothing of any kind could be retained on the stomach. Pregnancy was not detected, but the disorder attributed to some disease of the pylorus. The sickness and extreme emaciation were the only symptoms present. After death, no morbid appearances were observable in any part of the body. The uterus contained a fœtus about four months old. This patient was literally starved to death." "The treatment pursued consisted of the use of various salines, anti-emetics, counter-irritation, leeches, acetate of morphia sprinkled over a blistered surface, &c.

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* On Parturition, p. 194.

† Vol. viii. p. 149, new series, 1829.

I have no doubt that many similar cases might be adduced, but I shall only add one which occurred to myself. The amount of the sickness was not so great as in many I have seen, but the fatal termination was both sudden and inexplicable. The lady, aged about 40, had previously borne five children, and was about four months pregnant. From an early period she had suffered much from sickness, which continued throughout the day, and prevented her from taking food. She had intervals, however, of comparative freedom, and was by no means excessively reduced. After an interval of this kind, the sickness returned with some violence for several hours, in the midst of which she was suddenly seized with collapse, the vomiting ceased, the pulse became very small and rapid, the surface cold, the lips remaining red, but in other respects the face resembled that of a cholera patient. Under the use of powerful stimulants she rallied considerably, and for some days seemed to be recovering, and the sickness returned; but again she suddenly collapsed, and died. A day or two after the first collapse, the uterus very quietly expelled its contents without hemorrhage. I regretted much not being able to obtain a post mortem examination, which would probably have explained the cause of death, which I am utterly unable to do without it. It was not internal hemorrhage, as I at first thought, for the uterus contracted well, and expelled the placenta without clots; nor the rupture of an abdominal organ, for no peritonitis followed; nor disease of the heart; at least neither percussion nor the stethescope yielded any abnormal sounds in the chest; nor excessive exhaustion, for she was but slightly reduced. There was no hernia, and the integrity of the intellect precluded the supposition of cerebral disease.

Although our ignorance of the cause of death does not permit us to derive the full practical benefit of such a case, yet I think it may be useful to record it, as showing that sudden death without apparent cause is among the possibilities in patients afflicted with excessive vomiting.

M. Paul Dubois has stated that in the course of thirteen years he has met with twenty cases in which it has proved fatal.* Prof. Stoltz also states his belief that death from this cause is more common than has been supposed, and instances three cases which have come under his own knowledge.

554. *Causes.*—In the milder cases the vomiting is simply owing to the sympathy with, or reflex irritation from the gravid uterus; the condition of the stomach is healthy in most cases. Temperament will doubtless have much influence. A plethoric condition has been supposed to give rise to it. Carus says, "A second cause, often combined with the former, is overfulness of the portal system, in consequence of the increased vascular action of the genital system, which plethoric condition often gives rise to inflammatory affections." When the vomiting comes on, especially for the first time, towards the end of pregnancy, it is probably owing partly to reflex irritation, and partly to mechanical pressure of the gravid uterus upon the stomach. Siebold,† Carus,‡ and some other writers, have supposed that in aggravated cases of vomiting the stomach becomes inflamed; but if we may judge from the cases I have quoted, this does not appear to be correct.

How far obstinate vomiting may depend upon an abnormal condition of the uterus we have scarcely the means of deciding. Dr. Burns observes: "Obstinate vomiting has also appeared to proceed from a morbid condition of the uterus, which after death has been found slightly inflamed; or even pus has been found between the surface of the uterus and membranes, although during life no pain was felt in the uterine region. The parietes are soft, the uterus flaccid, with an exudation of fibrin in some places between the uterus and decidua. The stomach is sound, and seldom has been pained."§ In one of Mr. Dance's cases he found the parietes of the uterus "preternaturally soft and flabby, but without any other appreciable change of structure;" whilst between the fœtal membranes and the uterus "there were some false membranes, forming a layer some lines in thickness, exactly resembling those found between the pleuræ after inflammation. The same was found between the placenta and the uterus, but of a more purulent character." In the other case, the parietes of the uterus were extremely thin, scarcely a line and a half in thickness. They were also very soft, and gorged with blood, but there was no false membrane. From these, and similar cases, we may consider it established that a patient may die from the effects of aggravated vomiting, without evidence of sufficient organic disease to cause death.

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* Gazette Med. de Paris, No. 23.

† Frauenzimmerkrankheiten, vol. ii. p. 10.

‡ Gynœcologie, vol. ii. p. 198.

§ Midwifery, p. 254.

Among the occasional exciting causes we may place bad smells,* peculiar odours, shocks, frights, and indigestible food, or a torpid state of the bowels.† We can scarcely, I think, attribute it to the secretions of the stomach.

555. *Symptoms.*—The cases I have related give such graphic pictures of the symptoms of aggravated vomiting, that I need hardly recapitulate them here. Exhaustion, depression amounting to agony, uncontrollable restlessness, incessant retching, emaciation, quick small pulse, loss of sleep and rest, with a countenance expressive of misery and weakness; these in various degrees are to be observed increasing as the patient advances towards a fatal termination.

556. *Diagnosis.*—The first point to be ascertained in any case of repeated vomiting is, whether it arise from pregnancy or disease. Its occurrence only in the morning, with the absence of the menses, and an alteration in the areola and nipple, will afford good grounds of suspicion, though not absolute proof. When the vomiting is very frequent and obstinate, without other evidence of disease of the stomach, but with such signs of conception as are developed according to the supposed period of pregnancy, we shall have good ground for treating the case as dependant upon gestation. The resistance to ordinary remedies is also significant, and I think, to an experienced eye, the aspect of the case is different in the vomiting from pregnancy, and in that from disease, and almost characteristic. As to its positive and relative value as a sign of pregnancy, I must refer the reader to works upon the subject; I have only to treat of it as a disease.

557. *Treatment.*—The choice of remedies will depend very much upon the constitution of the woman, upon the amount of the disorder, and upon the period of pregnancy. In slight cases, at an early period, no treatment will be necessary; and even when more severe, it may be wise often to try the effect of time, inasmuch as in the majority of cases it ceases after the third or fourth month. It is probable that when the stomach is disturbed by its contents, or the ingesta are of an indigestible character, a moderate degree of vomiting may be beneficial.

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* Blundell's Obstetricy, p. 187.

† Campbell's Midwifery, p. 520.

Nausea is so much more distressing than vomiting, that in such cases Denman and Blundell advise us to give a gentle emetic.

If at any period of pregnancy the vomiting be so excessive as to call for our interference, and the patient be of a plethoric habit, there can be no question of the propriety of venæsection; but in most cases this can only be done at an early period of the vomiting, as by its continuance the patient is so much reduced as to prohibit this remedy. Mauriceau relates a case of violent vomitings, accompanied by a kind of convulsive movement, in the second month of pregnancy. "The patient was of a sanguineous disposition. She had formerly aborted, and had had a false conception the year before. She was now bled at the arm, and she went on to her full time, and was safely delivered." In another case, the vomiting occurred in the ninth month of pregnancy, and was cured by bleeding from the arm twice, succeeded by opiates and soothing 'lavemens.'* Smellie relates several cases. "In about four months after this accident, the same woman became pregnant; and being attacked with sickness at her stomach and retchings, in her second month, Dr. Smellie was requested to see her. Finding that she had exceeded her usual catamenial period, he ordered her to lose 8oz. of blood from the arm. The vomiting was immediately relieved. From this time forward, till about the middle of the fifth month, venæsection was repeated every four weeks, with the same success; and she happily went on her full time."† Manning recommends this particularly at the menstrual periods. Dr. Burns observes: "Of the utility of this practice, the general testimony of practitioners, and my own observation, fully convince me. It does good by relieving that state of the origin of the eighth pair of nerves, which occasions the irritability of the stomach, just as it would abate vomiting in other more formidable cerebral affections. It also acts on the sympathetic nerve, the cœlic plexus of which sympathizes with the uterine."‡ Dr. Campbell states: "As the irritability which prevails during the early months must be ascribed to suppression of an accustomed evacuation, so the most effectual mode of relieving it is by venæsection. If the patient can support blood-letting, and have no objection to it, from 4 to 6oz. should be taken from the arm monthly, at or near the period when the menses should have appeared. When the individual is too delicate to bear phlebotomy, or has a dislike to it, let an adequate number of leeches be applied either to the epigastric region, or the groins."§

Small and repeated bleedings are preferable to the abstraction of a large quantity at once. If venæsection be objectionable, leeches may be applied to the epigastrium. Gentle purgatives should be given, so as to keep up a constant action of the bowels, especially if there be evidence of irritating matters being retained in the intestines. Benefit is frequently derived from counter-irritation to the epigastrium, by means of a blister, turpentine, or mustard poultice. M. Bretonneau has found great benefit from friction to the abdomen, with an ointment composed of one-fifth of belladonna.*

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* Mal. des Femmes Grosses, vol. ii. pp. 21, 310.

† Cases in Midwifery, vol. ii. pp. 83, 84.

‡ Midwifery, p. 253.

§ Midwifery, p. 521.

If the sickness be not vere severe, effervescing draughts will occasionally afford relief. If necessary, a few drops of laudanum may be given with each. Narcotics and opiates are frequently successful, and especially after bloodletting; but their constipating effect must be corrected by enemata or cathartics. A very useful method of exhibiting laudanum is by wetting a cloth with it, and applying that to the stomach. Dr. Heberden states, that "the application of a piece of folded cloth, moistened with laudanum, to the region of the stomach, has been of considerable service when internal medicines of the highest estimation have proved ineffectual." Or the opium may be given in an enema of starch or warm water. Denman has thrown out a doubt as to the effect upon the fœtus: but I have not met with any cases which confirm his view. Professor Simpson succeeded in arresting the vomiting by the inhalation of the vapor of laudanum.†

Various kinds of antispasmodic remedies have been tried, but without much benefit; in fact, it would be as useless as difficult to enumerate all the remedies that have been employed, and often in vain, against this distressing complaint. When the ejected matter is acid, charcoal and other alkaline substances are found useful; and if these fail, acids may be tried. Dr. Dewees thus states his experience: "We rarely persevere in the use of the alkaline remedies, when we find that considerable doses will scarcely have a temporary effect. When this is the case, we have recourse to the acids themselves for the relief of this most distressing state of the stomach. Both vegetable and mineral have been employed by us, with about perhaps equal success; but the vegetable will merit the preference in general, on account of the teeth. We have in several instances confined the patients for days together to lemon juice and water, with the most decided advantage." "One lady, a patient of ours, took the juice of a dozen lemons daily, for many days together, with the most decided advantage, and no earthly thing besides."‡ With regard to the charcoal, Dr. Blundell observes: "It seems *a priori* not very probable that powdered charcoal can be of use in these cases, but learning from a friend, that in the hospital in New York it had been tried in vomiting with advantage, I was induced to give it an '*essai;*' and I can at least aver that I have seen no ill effects from it, not to add that it seemed to be of real efficacy. The method of administering it is in the form of a very fine powder, twenty grains every two or three hours, till it has produced an effect. I ought to observe, that it makes the stools very black."*

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* Bull. de Therapeutique, Aug. 1846.

† Monthly Journal, April, 1847.

‡ Compendium of Midwifery, p. 111.

Prussic acid has been tried, and successfully, in doses of from two to five drops, in mucilage, several times in the course of the day, and is recommended by Waller and Blundell. Slight bitters, especially infusions of Columba, are occasionally beneficial. Spearmint tea is also recommended by Manning. Iced water will sometimes check the vomiting, and in most cases it is extremely grateful.

In all cases the diet should be of the lightest kind, without stimulants, and taken in very small quantities at a time, and at that time of day when the stomach is least irritable. It may be necessary to diminish the quantity to the very least sufficient for nourishment; or even to nourish patients by enemata. "Hildanus has reported the case of a woman, who, from irritability of the stomach, rejected all food during the space of five weeks; but she was supported the whole time in the way above intimated (by enemata), being cured, and becoming at length the mother of a vigorous infant."† "We do occasionally meet with severe and alarming cases of continued vomiting," observes Dr. Ashwell, "where it is necessary to maintain an almost entirely empty state of the stomach, nourishment being by glysters of beef-tea and jelly. In one of these instances, after having given opium, I ordered a tea-spoonful of lime-water, or soda-water and milk, every ten minutes. In the course of the day the lime-water was omitted, and the quantity of milk increased, till at length the stomach could retain small quantities of solid food. Small doses of the calcined magnesia, taken two or three times daily in milk, will frequently relieve the sickness, by inducing an aperient state of the bowels. A few leeches to the pit of the stomach, followed by a small blister or opium plaster, will occasionally produce much good."‡ Patients obtain a great diminution of their distress by preserving the horizontal position.

If the stomach should exhibit symptoms of inflammation, it must be treated in the ordinary antiphlogistic manner, by venæsection, or leeches and blisters—due regard being had to the state of the patient; and the same may be employed when the liver takes on inflammatory action, as is not very uncommon.

Should the vomiting, occurring in the latter months, be principally or wholly the result of pressure, we are advised to use bandages, so as to depress the uterus; but this would be very hazardous; the same effects may generally be obtained by change of position.

559. The mere enumeration of various modes of treatment is a proof of the difficulty of combating the disease. In some cases we

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* Princ. and Practice of Obstetricy, p. 178.

† Ibid. p. 180.

‡ On Parturition, p. 193.

shall fully succeed; in others, afford some temporary relief, but in many, utterly fail. These latter cases are generally those in which the vomiting is most violent and incessant; and by these, consequently, the patient is most injured. Exhausted by the constant effort, and wasted by the incapability of retaining nourishment, the patient has no prospect but death to herself and child.

Such being the case, I conceive that we are perfectly justified in having recourse to any measure which does not compromise the life of the mother, even though the fœtus should be lost. It must be remembered that this is not a choice between the life of the child and that of its mother; for if the case end fatally to the mother, it is evident that the child must perish also. Dr. Denman, I believe, was the first to propose the induction of premature labor in such cases, and he says, "The propriety of this practice has also been considered when women have during pregnancy suffered more than common degrees of irritation, and especially when the stomach is in such a state that it cannot bear nourishment of any kind, or in any quantity, and patients are thereby reduced to a state of dangerous weakness. Presuming that these symptoms are purely in consequence of pregnancy, it may, perhaps, be justifiable to bring on premature labor."

The suggestions thus thrown out, but apparently not acted upon by Denman, have met with approbation, and been reduced to practice by men of the highest authority. Dr. Merriman has related a successful case, occurring in the practice of a "provincial surgeon of considerable eminence."* "She was teased with a severe cough, and her stomach was so irritable as to retain no food whatsoever, nor even opium in a solid form. She had taken absorbents, stomachics, bitters, aromatics, and opiates, without experiencing any relief: liniments, fomentations, and blisters had been extensively applied, without benefit; and she was thought to be sinking into her grave, when it was proposed, as a last resource, to bring on premature labor, six weeks before the full time; and the patient was delivered of a living child, and ultimately recovered."

Dr. Burns mentions that he knows one case in which the operation was twice successfully performed.†

Dr. Davis has recorded three successful cases:—"The author has performed the induction of premature labor, in the circumstances above described, three times. In one of them it was had recourse to in the seventh month, the patient having made an error of one month in her reckoning. The child, which was born alive, died in about two hours afterwards; the mother was soon and perfectly restored. The second case was on the whole more prosperous. The child, which had the appearance of one of eight months' growth, was given to a wet nurse who lived in the house, and who took excellent care of it. The mother also eventually recovered. Her sickness left her immediately after delivery; but she was the subject of feeble health, accompanied by a dyspeptic state of the stomach, for some years afterwards. The subject of the third case might be said to have been in a cachectic condition before her pregnancy. When arrived at her sixth month inclusive, she was exceedingly harassed by an intense irritation, from the effect of inanition, as the author supposed, which threatened a speedy and an alarming issue. The operation for the induction of premature labor was performed. The child of course was lost. The mother recovered rather rapidly, and enjoyed moderate good health afterwards, and has since borne several living children at the full period.*

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* Med. Chirurg. Trans. vol. iii. p. 139.

† Midwifery, p. 254.

I find the following case quoted in Ranking's Abstract:—"A lady, aged 28, the mother of three children, arrived at the sixth month of pregnancy, without interruption to her health. At this period she was, without obvious reason, seized with vomiting, which resisted all medical treatment, and reduced her to the last degree of exhaustion. Under these circumstances the operation of puncturing the membranes was proposed by Dr. Robert Lee, as the only means of saving her life, and was accordingly carried into effect by Mr. Edwards of Brompton, the narrator of the case. A small quantity of liquor amnii followed the puncture, but no signs of labor pains appeared, and the sickness continued unabated for that day. On the next morning, as the condition of the patient was not improved, it was determined that uterine action should be solicited by introducing the finger, and cautiously dilating the os uteri. This was done, and the part was so far dilated as to admit the hand, but still no pains were excited; the stomach, however, became more tranquil. In the evening a few feeble pains came on, and a six months' fœtus was expelled. The placenta was large, and a fibrinous coagulum was seen to be adherent to it. From this time the vomiting entirely ceased, and the patient ultimately regained her strength."†

Dr. Ashwell states, "If, notwithstanding every remedy, the vomiting goes on to debilitate the patient, she may be reduced to a state of extreme danger; in these circumstances, *after consultation*, we think it very justifiable to induce premature labor."‡

And Dr. Blundell, "Again, should all these remedies fail, you have yet another, and that is, the induction of premature delivery; for when delivery occurs, there is reason to hope this vomiting will cease. In determining on the use of this remedy, however, remember in the first place, that if the woman is very much reduced, there is always danger in these cases, lest the patient should sink under accidental flooding; this ought to be mentioned to the friends before the operation is performed. Nor is it to be forgotten, that when premature delivery is thus brought on, children are often presenting preternaturally—the leg or the nates, the arm or the shoulder, being placed over the centre of the pelvis instead of the vertex; nor that the child may perish under the best management, in consequence of this unfavourable position."*

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* Obstetric Med. vol. ii. p. 871.

† Ranking, vol. iv. p. 310, from *Lancet*, Sept. 17, 1846.

‡ On Parturition, p. 194.

M. Dubois had recourse to the operation in four cases, three died and one recovered. M. Stoltz also tried it in four cases with a like result, three women died and one recovered. Dr. W. Harris relates a severe case, whom he saved by this means.†

560. To these cases I shall add two, which have occurred to myself, in which the value of the operation is equally manifest, although the results were not equally favorable. The first case was that of Mrs. W. æt. 26, of a good constitution, and in good health; married six years, and the mother of two children. She became pregnant for the third time in June or July, 1846. The morning sickness commenced at the usual time, and continued as usual; until one night (Aug. 20), she was suddenly awakened from sleep by a great noise, which threw her into a state of great alarm and nervousness. The next day she felt very ill with headache, loss of appetite, and palpitation. The morning sickness continued throughout the greater part of the day. In a few days many of these symptoms subsided, but the sickness and loss of appetite continued. In this state she remained until Sunday, Sept. 1, when Dr. Maguire, of Castleknock, was called in. He found her retching incessantly, and vomiting a dark brown fluid. Tongue clean and moist; bowels free; pulse quick. Effervescing draughts, with a few drops of laudanum in each, were ordered to be taken during the night. The next morning she was in the same state; sickness of stomach not the least abated; the fluid ejected was sometimes green, and sometimes brown: she complained of headache; the face was flushed, the pulse pretty strong and quick. Ten ounces of blood were taken from the arm; a mustard sinapism applied to the pit of the stomach; a purgative enema given, and the effervescing draughts continued. The blood was neither buffed nor cupped. Sept. 3. Vomiting recurred this morning. The patient complained of great tenderness upon pressure in the epigastric region; violent epigastric pulsations. Twelve leeches were immediately applied, followed by a poultice, with fomentations subsequently. Enema of assafœtida and turpentine. Cold drinks. Sept. 4.—Leeches afforded much relief. The vomiting continues, but not so violent. Pulse quick and pretty full. Sense of great oppression at the præcordia. Bowels free. Ordered a moderate dose of the muriate of morphia every two hours.

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* Principles and Practice of Obstetricy, p. 181.

† Philadelphia Med. Examiner, Feb. 1856.

The fomentations and mustard poultices to be repeated in the evening. The morphia produced some sleep during the day, but did not relieve the vomiting, every thing taken being rejected immediately. Sept. 5. This morning the vomiting was so excessive, that Dr. Maguire requested me to visit his patient, and I found her in the state I have described. The stomach rejected every thing instantly, and she had a most intense and constant nausea, so distressing that she had to seek relief by producing vomiting, Her distress was indescribable; sometimes rolling and tossing herself in bed; at others, placing herself on her knees, with her head inverted, sighing and groaning with anguish. Her pulse was 120, and small but not weak. She complained of utter exhaustion, and had become very thin. There was some tenderness over the stomach, but not in the uterine region. I could neither hear the fœtal heart, nor the uterine murmur. We tried leeches, blisters, sinapisms, poultices, opium, creosote, prussic acid, calomel, ice, alkalis, acids, charcoal, &c. with but slight benefit, and, with a week's intermission, the vomiting continued unabated, and her condition deteriorating, until Oct. 19, at which time her condition was truly pitiable; the vomiting was incessant, and her distress inexpressible, so that I really find it impossible by words to convey an adequate impression of the agony she suffered. When not actually vomiting, she suffered more torture from nausea; she lay tossed about in the bed, or suddenly throwing herself out of the bed, she would roll about on the floor. Her sighs and groans were mingled with shrieks and petitions for relief. Her face was haggard; her eyes sunken, and surrounded by dark circles; her body was little more than skin and bone; her stomach retained nothing for a moment; the pulse were 130, and very weak; she obtained little or no sleep, and was attacked by occasional paroxysms of suffocation. With this array of symptoms, and in this condition, we could not doubt that unless relief were by some means afforded, the patient must shortly sink; and after the failure of all the ordinary remedies, there remained only the induction of premature labor to which we could have recourse. Accordingly, after much reflection and consultation, and with a painful sense of the responsibility, we decided upon having resort to this operation. We gave ergot repeatedly, and passed a bougie into the uterus, but it was four days before the uterus expelled its contents, and the patient was reduced to a most alarming state of exhaustion. After this the vomiting recurred but three times, and Mrs. W. was perfectly convalescent in a fortnight. I have given this case in detail, not only because of its successful result (and there can be no doubt that the patient's life was saved by the operation), but also because of the illustration it affords of the distress occasioned by the complaint.

The second case is as follows:—On the 12th of Dec. 1847, I was requested by Mr. Young, of this city, to visit Mrs. S. with him. She was above 40 years of age, had borne six children, and was in good health up to seven weeks previously, when she was attacked by dysentery, which after the usual treatment subsided, or rather was superseded by incessant vomiting. For the last few weeks she had retained nothing on her stomach, and was in consequenee reduced to the lowest degree of weakness and exhaustion. The emaciation was greater than in the former case; she was literally but skin and bone. She was confined to bed, and suffered great agony from the retching both day and night; her pulse were 120, and so weak as to be barely perceptible. I carefully examined every organ of the body, but could detect no disease. I thought I could discern a fulness over the pubes, and I asked her if she were pregnant. She did not think so, although the catamenia had been suppressed for four months; and she certainly had no other symptom of pregnancy. Upon careful consideration of the case, however, I inclined to the belief that she was in the family-way, and that the vomiting was the result of pregnancy and not of disease, and as all the ordinary remedies had been tried by Mr. Young and others, I proposed to try and bring on premature labor. I accordingly passed a bougie into the uterus, and then introduced a small roll of lint into the os uteri, where I left it. The next morning I had the gratification to find that labor pains had set in early, and she had been delivered of a fœtus of three months, without hemorrhage, and with but little suffering. From this moment the vomiting ceased entirely; she took proper nourishment, and for two days made a very favourable progress, but she was then attacked by obstinate and continued diarrhœa, under which she sank about four days after delivery.

This case presents several points of great interest: 1. It affords another example of a patient reduced to the verge of death, by the vomiting of pregnancy. She was worse when I first saw her, than the case I have first related at the time of the operation, although the vomiting had not continued so long. 2. The diagnosis was unusually difficult. The patient was near the age at which menstruation ceases: did not believe herself pregnant; had no other symptoms of it but the vomiting, and the absence of the catamenia; and the attack had come on at the termination of dysentery. It was merely a probability that she might be pregnant, and upon that I acted. 3. The success of the remedy was perfect, as regards the vomiting. She took food and drink immediately after delivery, and never vomited again. But her exhaustion was so great, that she could not withstand the attack of diarrhœa. Had the operation been sooner performed, it is very probable that she would have recovered.

The cases I have brought together form an ample justification of the operation; but then, the question arises, at what time should we interfere, or what state of the mother will warrant our thus interfering? Whilst we admit that the sole ground for interference is the condition of the mother, we must not altogether overlook the period of pregnancy, and the prospects of the child. For instance, if we can afford temporary relief, and so postpone the operation until the full time, without serious risk to the mother, even at the expense of considerable suffering, I think the probability of saving the child thereby requires that we should do so. Or again, even if we can carry on the case with safety, until the fœtus arrives at a viable age, we ought certainly to do so. But if the mother suffer incessantly; if her strength be rapidly running down, with the other symptoms I have already mentioned, so that her life is in danger; then we must interfere, at whatever period it may be, without regard to the child at all; and moreover, we must recollect, that by too long delay the patient may risk her life even after the operation. It requires both intelligence and firmness to seize the proper moment: if too soon we will risk the child without adequate causes; if deferred too long we risk the mother. I feel satisfied that many of the cases in which it has been tried, and proved fatal, resulted from too great delay. According to M. Dubois, the proper period is marked by the following signs. 1. Almost incessant vomiting, by which all alimentary substances, and sometimes the smallest drop of water, are rejected. 2. Wasting and debility, which condemn the patient to absolute rest. 3. Syncope, brought on by the least movement or mental emotion. 4. A marked change in the features. 5. Severe and continuous febrile action. 6. An excessive and penetrating acidity of the breath. 7. The failure of all other means.*

This is not the place to dwell at length upon the mode of inducing premature labour; it may be best done by the douche, or by piercing the membranes, introducing a sponge tent in the cervix uteri, and aided by the ergot of rye. I will merely add my conviction that, for a little time after the vomiting has ceased, the diet ought to be plain, and of the simplest kind, lest diarrhœa should be induced.

CHAPTER III.

CARDIALGIA.—PYROSIS.—CRAMP OF THE STOMACH AND DUODENUM.—HEMATEMESIS.

561. 1. Cardialgia.—Pyrosis.—A great number of women suffer from this form of disease during gestation, but the degree varies much. It may occur at a very early period,† and even be amongst the first symptoms by which the patient will recognize her condition;‡ but in general, it is not until the latter half of pregnancy that it is

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* Gazette Medicale, No. 23.

† Campbell on Midwifery, p. 523.

‡ Dewees' Compendium of Midwifery, p. 112.

troublesome.* Cardialgia and pyrosis seem to be merely different forms of the same disease. Women of a nervous and hysteric temperament are peculiarly obnoxious to the disorder.

562. *Causes.*—There is no doubt that certain articles of food may give rise to it, or aggravate it,† though more frequently it is owing to the condition of the stomach, induced by sympathy with the gravid uterus. It has been attributed to a morbid alteration of the gastric fluid,‡ or to the presence of bile in the stomach.§

Dr. Burns attributes pyrosis to a complicated affection of the eighth pair of nerves. Mental emotions, or a deranged state of the bowels, may give rise to it.

563. *Symptoms.*—The patient complains of pain and heat at the pit of the stomach, extending along the œsophagus, with occasional eructations of a sour or bitter fluid. Eating greatly aggravates these symptoms. In pyrosis, this burning pain is much more severe, and more extensive, attended with more copious eructations of watery fluid—hence the popular name, waterbrash. There is a distressing sensation of dragging from the stomach towards the spine. Vomiting sometimes occurs. The fluid evacuated may be of a bilious character, or clear water: sometimes it is bitter, at others acid, and occasionally so acrid as to excoriate the mouth and fauces.

In ordinary cases there is no constitutional disturbance; the appetite is either destroyed, or the pain attendant upon its gratification is so great, that the patient voluntary abstains from eating; but in the severer cases there is great distress. M. Capuron observes, "This disease, when severe, occasions more or less disorder of other organs, the extremities stiffen, the body shivers, and is covered with cold sweat; circulation and respiration are impeded, deglutition is impossible, and the evacuations are suppressed; enemata with difficulty overcome the constipation, and bring away nothing but hard and black scybalæ. Lastly, according to Boerhaave and others, the patient may die of the agony in less than three hours."‖

564. *Diagnosis.*—It is of importance not to mistake inflammation of the mucous membrane of the œsophagus and stomach for heartburn. In the former the distress is continuous, and gives rise to fever and quick pulse; whilst in the latter the pain and heat come on occasionally, subside spontaneously, and are not accompanied by fever. Lastly, the existence of pregnancy is a presumption in favor of heartburn or pyrosis.

565. *Treatment.*—At an early period of pregnancy the disorder

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* Imbert: Mal. des Femmes, vol. i. p. 394.

† Denman's Midwifery, p. 155.

‡ Campbell on Midwifery, p. 523.

§ Gardien: Traitè des Accouch. vol. ii. p. 58.

‖ Mal. des Femmes, p. 383.

may often be relieved by a change of diet, exercise, slight irritation to the pit of the stomach, &c. A dose of magnesia will often remove it.

Capuron observes, "If the cardialgia be sympathetic and nervous, as in hysteric women at the commencement of gestation, it is combated by regimen, exercise, baths, fomentations to the pit of the stomach, and lastly by narcotics and antispasmodics, according to the severity of the pain. If, on the other hand, the disease is idiopatic, and depends upon the presence of acid or noxious matters in the stomach, as happens ordinarily in pyrosis, we must first relieve the stomach of these, and afterwards by increasing its tone, prevent a return of the disorder."[*] And with him M. Gardien coincides. "In cardialgia and 'soda,' (pyrosis)," he says, "which I consider as only different degrees of the same affection, the indications of cure may be comprised under two heads. We can only diminish or cure the sensation by neutralising the fluids contained in the stomach, or by expelling them." "When the burning is severe, prudence will dictate the employment in the first instance of soothing and antispasmodic remedies, and of abundant drinks." "When the pains are owing to the presence of an acid, we may at once commence by absorbents."[†]

In more obstinate cases, depending upon acidity, great benefit is derived from magnesia, simple or combined with ammonia;[‡] lime-water; preparations of chalk;[§] liquor potassæ, with chalk mixture or mucilage; ærated water of potash or soda;[‖] acids.[¶] Drs. Denman[**] and Capuron[††] speak favorably of an occasional emetic. The bowels should be attended to in all cases, and laxatives will in general be necessary, such as rhubarb and magnesia, aloetic pill, compound extract of colocynth, &c.

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[*] Mal. des Femmes, p. 385.

[†] Traitè des Accouch. vol. ii. p. 59.

[‡] Dr. Denman speaks highly of the following formula of Dr. James Sims:

℞. Magnesiæ ustæ:
Aq. Ammoniæ puræ aa . ʒi.
— Cinnamoni . . . ʒiii.
— Puræ . . . . . ℥vss.
M.

Sumant cochlearia duo vel tria ampla sæpius in die, urgente cardialgiâ."—*Midwifery*, p. 115.

[§] Ashwell on Parturition, p. 169.

[‖] Campbell's Midwifery, p. 523.

[¶] Dewees' Midwifery, p. 113.

[**] Midwifery, p. 165.

[††] Mal. des Femmes, p. 385.

In some cases the pain will require the use of antispasmodics or opium;* or even the abstraction of a moderate quantity of blood.

A blister may be applied to the pit of the stomach, or between the shoulders, with good effect; or an anodyne liniment may be rubbed over the abdomen.

Mild bitters have been strongly recommended when the stomach is enfeebled.

566. II. CRAMP OF THE STOMACH AND DUODENUM.—Under this title Dr. Burns has described an affection not very uncommon with pregnant females. It consists of a cramp-like pain in the region of the stomach and duodenum, occasioning considerable suffering, and even sometimes causing abortion.†

It is probably dependant upon the state of the bowels, or it may be caused by errors in diet, or mental emotion. In some few cases it would appear to be connected with the passage of a biliary calculus, and may give rise to jaundice.

Occasionally, however, it is a less simple affection, being complicated with congestion of the head, threatening convulsions, accompanied with tenderness of some portion of the spine.

567. *Treatment.*—Our first object is to quiet the pain by a full use of laudanum and ether.

When this is attained, we may proceed to remove the cause, and to correct any intestinal irregularity. Dr. Burns recommends aloetic purgatives, but these in many cases may not be suitable. If there be piles, as is very often the case with pregnant females, they will rather prove injurious than beneficial. I have found Gregory's powder, electuary of sulphur and senna, or castor oil, to answer the purpose better.

During the intervals of the attack, tonics (of which oxide of bismuth or preparations of iron are recommended,) or stomachics may be exhibited. A belladonna or opium plaster, or a blister over the stomach, is often very useful.

Should the attack be very severe, bleeding, or leeches to the epigastrium may be advisable; this will be especially the case, should there be any symptoms of congestion about the head, and more for the purpose of preventing an attack of convulsions, than even for the relief of the gastric affection.

568. III. HÆMATEMESIS, OR VOMITING OF BLOOD.—In some rare cases, a discharge of blood takes place from the stomach during the early months of pregnancy. It is very seldom in any large quantities,

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* Imbert: Mal. des Femmes, vol. i. p. 394.

† Midwifery, p. 256.

nor does it continue any length of time. It can scarcely be considered as a dangerous attack; though to the patient it is abundantly alarming. In many cases, I have no doubt, it is a species of vicarious menstruation.

569. The *causes* may probably be found in a general or local plethora; or it may possibly arise soon after conception, from the suppression of the menstrual discharge. In other cases it may be the consequence of violent straining and vomiting.

570. *Treatment.*—The first object is to relieve the system (where plethora exists) by a less hazardous evacuation; viz., bloodletting or leeches. After this has been done, blisters to the pit of the stomach, purgatives, acids, and astringents, as recommended, may be tried.

Should the hemorrhage take place during labor, or should labor pains, with dilatation of the os uteri, come on prematurely in consequence of it, Dr. Burns advises that the labor should be hastened.*

For more minute details, I must refer the reader to works upon the diseases of the stomach. This disease so seldom occurs during gestation, that I have thought it unnecessary to give them.

CHAPTER IV.

CONSTIPATION. DIARRHŒA.

571. I. Constipation.—Nothing is more common than for pregnancy to change altogether the habit of the bowels: in cases where, previous to conception, they were quite regular, or even relaxed, they often, during gestation, become so constipated as to require the constant exhibition of purgatives. This change is said to occur more commonly in patients of a bilious or melancholic temperament. The degree to which the constipation may be carried varies much. In the ordinary cases which come under our notice, we may find that three or four days intervene between each alvine evacuation; but where the patient is careless about herself, a longer period—one, two, or three weeks, or even months, may elapse. "Constipation may continue a longer or shorter time. Certain pregnant females are reported to have passed more than eight days without an evacuation. A case is cited in 'l'Histoire de l'Academie des Sciences,' where it occurred every twenty days, and many others where the fæcal matters were so hardened by their retention in the intestine, that they had to be extracted by the fingers and by instruments. We had occasion to see a lady—

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* Midwifery, p. 265.

with MM. Pelletan and Dubois—who was constipated for more than three months."[*] "The period which some females pass without a motion is almost incredible; from nine to ten days often intervene, and even several months have been mentioned. In a case in my practice, the intestines were so much overcharged, that after the expulsion of the fœtus, the attendants thought the woman had another child to bear; and as I did not see the patient until after her delivery, they insisted on my examining *per vaginam*, when I found the rectum distended to the size of a quart bottle. This woman died of peritonitis; fourteen pints of liquid feculent matter were removed from the small intestines, the colon and rectum having been emptied during life by enemata."[†]

The slighter cases of this affection, though troublesome, cannot be said to be in any respect dangerous: but where the constipation is much prolonged, very unpleasant consequences may ensue.

It may occur at the beginning or end of gestation; or it may be troublesome throughout the whole period.

572. *Causes.*—By some writers constipation is regarded as the effect of the pressure of the gravid uterus upon the intestines. By others, as being the result of an altered state of vitality in the intestines, as M. Imbert has observed: "I doubt very much whether this compression exists in ordinary cases. While the uterus is enclosed in the pelvis it is not large enough to obliterate the rectum." "When above the cavity of the pelvis, the intestines are behind it, and in a cavity like the abdomen cannot be compressed so as to obliterate their canal." "Let us admit, therefore, that constipation is a vital lesion, and is to be explained on principles already laid down." That is, from some irregularity of innervation.[‡]

There can be little doubt but that both are influential, although it may be difficult to define exactly the limits of each.

Siebold has mentioned a mode in which the pressure is exercised, not alluded to by other authors, viz. where the vertex of the fœtus is toward one or other sacro-iliac synchondrosis, *i. e.* in the third or fourth position of Naegelè. He has also attributed constipation to cramp of the intestines. "It may be owing," he says, "1. To the augmented activity of the genital system, and the consequent diminished energy of the intestinal canal. 2. To errors in diet. 3. To the pressure of the enlarged uterus. 4. To the pressure of the back part of the head or the vertex upon the gut, in the third and fourth position. 5. To cramps, arising from the increased irritability of the intestines. 6. To the lazy and indolent habits of pregnant females."[§]

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[*] Capuron: Mal. des Femmes. p. 367.

[†] Campbell's Midwifery, p. 524.

[‡] Mal. des Femmes, vol i. p. 364.

[§] Siebold's Frauenzimmerkrankheiten, vol. ii. p. 38.

573. *Symptoms.*—In the slighter cases there are few symptoms to call for our interference; general uneasiness and discomfort, slight headache, and a moderate increase of heat may be observed; all disappearing immediately after the bowels have been evacuated.

Even in cases where the accumulation of fæces is excessive, we may be deceived by the absence of great uneasiness, and by the fact of fluid stools (in small quantity) passing every day.

"There is reason to believe," says Denman, "That this complaint has often been overlooked in practice; for though the column of indurated fæces is sometimes enormous, a small quantity in a liquid state escaping between the column of hardened fæces and the side of the intestine, may be daily discharged; so that no suspicion of the real nature of the case may be entertained, unless the stools be inspected, or the patient be examined *per anum.*"

But in the majority of cases where the constipation is obstinate and prolonged, our attention cannot fail to be arrested by the symptoms. The patient complains of headache, sleeplessness, or unpleasant dreams, restlessness, and discomfort. She has a sense of weight and fulness in the abdomen, and general uneasiness. The irritability of the system is augmented, and all the sympathetic irritations of pregnancy are increased. The stomach is disturbed, the appetite is diminished, and vomiting often occurs. There are pains in the abdomen, and irritation of the mucous membrane of the bowels, giving rise to tenesmus, and a discharge of mucus tinged with blood, or fluid evacuations mixed with hardened scybalæ. "The consequences of obstinate constipation are, continued headache, anxiety, giddiness, sleeplessness, distressing dreams, vomiting, displacement of the uterus, swelling of the veins of the lower extremities, tedious labor; painful, irregular, and ineffective pains; obstruction to the passage of the child; and subsequent to delivery, great danger of childbed fever, especially if it be epidemic at the time."*

The pains in the abdomen may even be mistaken for labor pains; and there is considerable risk of abortion or premature labor, from the violent efforts made by the patient to evacuate the bowels.†

In all cases where we have reason to suspect an accumulation of fæcal matter, it might be advisable to make a vaginal examination, by which we shall be able to ascertain the state of the rectum. It will be found distended, often to an enormous size, diminishing considerably the calibre of the vagina. In cases where fluid stools are discharged, we may detect a groove running along the mass of indurated fæces.‡ If this loaded condition of the rectum be not relieved, it will increase both the danger and distress, by exciting inflammation and fever, and may even prove fatal, by inducing sphacelation of the parts. Dr. Burns observes, "In considering the effects of costiveness, not only in pregnant women, but in other circumstances, it will be well to attend to the effect on the rectum alone, independently of other consequences; and to recollect the branches, both of the sympathetic, ganglionic, and sacral nerves distributed to that gut, and the remote influence thereby exercised." Hemorrhoids, or piles, are a frequent consequence of the obstruction offered to the return of the blood by this local pressure. Should this state of the bowels be allowed to continue, we may expect great inconvenience at the time of labor. The descent of the head into the cavity of the pelvis will be delayed, and the passage of the child impeded, or rendered impossible, until by mechanical means the fæcal matter has been removed; and even when delivery has been accomplished, the convalescence is by no means always favorable. "After delivery," says Dr. Burns, "masses of indurated fæces come down from the colon, attended with considerable pain and frequency of pulse, and sometimes fatal peritoneal inflammation." I have already quoted a case of this kind related by Dr. Campbell. The probability of puerperal fever will be much increased, of course, if that formidable disease should be epidemic at the time.

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* Siebold's Frauenzimmerkrankheiten, vol. ii. p. 39.

† Burns' Midwifery, p. 256.

‡ Davis's Obstetric Medicine, p. 873.

574. *Treatment.*—What has been stated in the preliminary chapter will, I trust, have the effect of preventing neglect as to the state of the bowels during gestation, in those who have the management of the case throughout. But we are often not consulted until the bowels have acquired a habit of constipation, or the patient is alarmed at the long interval which has elapsed since the last evacuation. Now, although it is quite necessary that the bowels should be kept free, yet their condition, when pregnancy is not present, is not exactly the standard; we must make some allowance, because a slightly confined state of the bowels is in many their *natural* condition during pregnancy. We are not then to interfere actively in every case where their action is rather more sluggish than usual; or if we do, it should be by mild methods first, lest by accustoming the intestines to act *only* when influenced by medicine, we aggravate the disorder we seek to remove.

An occasional dose of manna, magnesia, rhubarb, caster oil, compound extract of colocynth, &c. with the use of enemata of warm water, will in most cases answer our purpose. The diet also may be arranged so as to act beneficially upon the bowels. If the case be more obstinate, stronger purgatives and more potent enemata must be used, and we should carefully ascertain in such cases that the bowels have been *adequately* freed. Having succeeded in this object, we must prevent a recurrence of the constipation by the regular exhibition of purgatives or enemata. If there be experienced much irritation after the evacuation, a dose of hyosciamus (gr. iv. or gr. v.) may be given; or some of the preparations of opium, in doses according to the necessity of the case, followed by a mild laxative. When there is much irritation, and fever, with tenderness of the abdomen, venæsection will be necessary.

If medicine prove ineffectual, there remains nothing for us but to scoop out the fæces from the rectum, softening them with enemata of warm water as we go on; and this is peculiarly necessary if the patient be in labor, Great care will be necessary after delivery to avoid irritation, and yet obtain a full evacuation of the bowels.

575. II. DIARRHŒA.—Although, in the preceding section, it has been stated that in the majority of cases the habit of body becomes more or less constipated during gestation, yet it must be confessed that examples of the opposite condition from the same cause are very numerous. Persons who require to take medicine ordinarily, sometimes find the bowels become free and regular without it during pregnancy. Others are subject to habitual looseness, or to sudden, or even periodical attacks of diarrhœa. These attacks may be caused by previous constipation, and alternate with it; or they may co-exist, for we occasionaly find fluid stools discharged in consequence of irritation of the lower portion of the intestine, whilst the fæcal matter is accumulating largely above the seat of the irritation.

Diarrhœa may occur at any period of pregnancy; it sometimes follows conception so closely, that the patient has her attention first drawn by it to her situation, and it may return every month, as though it were vicarious of the menses: as in the following case:—

"A lady, the wife of a merchant, of a spare habit and bilious temperament, but of a remarkably flaccid disposition, was always seized immediately after conception with a diarrhœa, which returned *with unfailing regularity every month during the whole of the pregnancy*, and was often accompanied on its return by violent pains of the stomach. The occurrence of this periodical diarrhœa was always considered by the lady herself an indubitable sign of pregnancy. The symptom continued at each period for seven or eight days, and on each day she had from fourteen to twenty-five copious alvine discharges. Although she took but little food, she nevertheless enjoyed a moderately good state of health and spirits. When the case was reported, she was the mother of three healthy children. In her first pregnancy, medicines were exhibited with the intention of stopping the looseness; but they produced such unfavorable symptoms, that they were soon put a stop to. In the absence of pregnancy, the catamenia, in the case of this lady, flowed regularly, healthily, and plentifully; whilst, during the first week after conception, and till the accession of the diarrhœa, a copious fluor albus took place, which then became arrested, and did not return."*

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* Comm. by Dr. P. Romellius, Ephemerid. Germ. dec. 2, an. 5. p. 303; Davis's Obstetric Medicine.

576. *Causes.*—As already mentioned, it may be caused by conception, and continued as a constitutional evacuation; or it may follow after constipation. It may arise from cold, to which pregnant females are very liable, partly owing to the defects of dress; or from mental emotion, or from a diseased state of the lining membrane of the intestines.

577. *Symptoms.*—The discharge varies much in frequency and in character. There may be two or three large evacuations, or ten or fifteen smaller ones. The discharge may resemble colored water, or it may be dark-colored, offensive, and even acrid. The milder attacks are unaccompanied by pain; but from the severer ones the patient suffers considerably. Tenesmus is occasionally present.

Where the attack is slight, the constitution scarcely sympathizes at all; the patient complains of weakness and langour, but there is no feverishness. In severer cases, especially when there is inflammation and ulceration of the mucous membrane, the pain is great; there is oftentimes a sensation of burning, the pulse is quickened, the tongue dry, the skin hot, with much thirst, the appetite is diminished, and vomiting occasionally occurs. The stools are not only frequent, but dark-colored and offensive. If it be obstinate and severe, diarrhœa, is even more likely than constipation to cause abortion, particularly about the third month. The worst form may prove fatal to the mother before or after delivery, but these cases are not common.*

578. *Diagnosis.*—It is of importance, as to the treatment, to distinguish the diarrhœa, which is an increased secretion from the mucous membrane merely, from that arising from inflammation; and this may be done sufficiently well by observing the effects upon the constitution—the former producing little or none, and the latter considerable disturbance, as already noticed.

579. *Treatment.*—It is not always wise to stop these discharges too suddenly, especially when periodical; we may content ourselves with restraining them, which may generally be done effectually by the chalk mixture, either alone, or in combination with kino or catechu. Sometimes moderate doses of hydrarg; c. creta, with Dover's powder, are preferable. If these fail, opium may be given alone, or in combination with lead. A very effectual mode is to administer it in starch as a glyster. If the discharge, though frequent, be insufficient, a dose of castor oil, with twenty or thirty drops of laudanum, will generally afford relief.

In the severer attacks, venæsection, or leeches to the anus, may be necessary, with mild purgatives. Dr. Burns says, "Small doses of rhubarb give great relief, and one grain of ipecacuan may occasionally be added to each dose of rhubarb." When the irritation and fever subside, anodyne enemata may be given. Blisters are occasionally useful. The patient will find great relief from being clothed entirely in flannel. The diet should in all cases be bland, though nutritive. I have found milk diet very useful and agreeable.

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* Burns' Midwifery, p. 259.

CHAPTER V.

ICTERUS, OR JAUNDICE.

580. THIS is a disease which more frequently affects the latter months of pregnancy, though it does occur at an earlier period occasionally.* It is said that women of a fair complexion are more subject to it than brunettes, and that it is more common in winter than summer. We sometimes see attacks of jaundice, which after a little time disappear; but it generally lasts the remaining period of gestation.

581. *Causes.*—The proximate cause may vary. 1. It may arise from the pressure of the enlarged uterus or intestines upon the gall duct.† This is probably the principal cause at a late period of gestation: but it can have no effect at an early period, before the uterus has left the cavity of the pelvis.

2. In these cases, it is probably owing to that sympathy which the chylopoietic viscera have with the womb.

3. It may arise from some obstacle within the gall bladder, such as a gall stone impeding the passage of the bile through the duct.‡

4. In some cases there appears to be a congestive enlargement of the liver giving rise to it, which continues during pregnancy, and terminates with it.

5. It may be owing to an idiopathic disease of the liver, as inflammation, occurring accidentally during pregnancy.

Cold or chagrin may prove one of the exciting causes.

582. *Symptoms.*—It will in most cases be found that the patient has been suffering from a disordered state of the stomach and bowels previously; in some females it occurs after a fit of vomiting, accompanied with tension and weight about the epigastrium or right hypocrondrium; in others there are no precursory symptoms. Generally speaking, the attack does not involve more inconvenience than this; but in some cases there are shiverings and flushings, cough, loss of ap-

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* Perfect, case 97. M'Clintock and Hardy, p. 51.

† Blundell's Obstetricy, p. 198. Campbell's Midwifery, p. 527.

‡ Siebold: Fraunzimmerkrankheiten, vol. ii. p. 85.

petite, and pain in the right side, with frequency of pulse, high-colored urine, and torpid bowels. When inflammation attacks the liver during pregnancy, it presents the usual symptoms of loaded tongue, quick pulse, severe pain, tenderness, &c. Sometimes the disorder of the stomach and bowels continues, and aggravates the suffering of the patient; in other cases it subsides after a few days. When the distress is considerable, abortion may result, though this is not common in the early months of pregnancy, probably because the jaundice then arises from sympathy with the uterus.

Two cases of jaundice, complicated with pregnancy, are mentioned by Dr. Davis. "One patient was married, and gave intimation of her being pregnant; the other was not married, and concealed her situation. The first was received into hospital, as a subject of tertian ague, for which one of the physicians prescribed bark. But the bark disagreed, and produced vomiting and abortion. In two days afterwards the whole of the jaundice had disappeared. She had advanced in her pregnancy about five months. The other, being an unmarried woman, omitted to mention the fact of her pregnancy. She was treated actively for jaundice by another physician, who gave her emetics. Part of her ovum came away, and was followed by a sanguineous discharge. She then confessed that she was pregnant. The emetics were laid aside, and innocent *placebos* were substituted. All her jaundice left her, and in a few days subsequently she was delivered of the remainder of her ovum."*

And M. Imbert says, "I witnessed an attack of jaundice in a female, æt. 40, pregnant for the ninth time, and at the second month of gestation. I could feel the liver three finger-breadths below the edge of the ribs; and after delivery it appeared even larger than before. I felt great fear of the results. For four days she had a brisk attack of fever, but the breasts filled, the secretion of milk took place, the jaundice disappeared, and the woman recovered her health, so as to be about her ordinary occupations in fifteen days, although the liver continued somewhat larger than natural. Il me parait donc plus juste de dire avec Van Swieten, que les jaunisses des femmes grosses sont presque toujours fort simples."

It is possible, also, that inflammation of the liver, causing jaundice, may prove fatal to the mother;† though this is rather unusual.

583. *Diagnosis.*—It is of great importance to distinguish the jaundice which arises from sympathy or mechanical obstruction, from that dependant upon inflammation; and our diagnosis will be grounded mainly upon the period of pregnancy, and the absence or presence of local symptoms.

Some females acquire a dark, almost yellow color of the skin during pregnancy, which must be carefully distinguished from the disease in question, as it is of no consequence, requiring no treatment, and disappearing after delivery.

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* Obstetric Medicine, vol. ii. p. 862.

† Ashwell on Parturition, p. 165.

584. *Treatment.*—If unaccompanied by severe symptoms, all that we need do is to attend to the state of the stomach and bowels, relieving any irritation, and keeping the latter free. The co-existence of pregnancy will forbid the use of the more active methods of treatment in the severer cases; but small doses of blue pill may be given, followed by a laxative. Purgatives may be repeated every second or third day with benefit. If there be evidence of spasm, opium or Dover's powder may be necessary to allay irritation. When the jaundice is the result of pressure merely, it may sometimes be relieved by lying constantly on the left side. In patients of a full plethoric habit, where there is much pain or irritation, it may be well to take away a little blood. Should the jaundice be dependant upon an attack of inflammation, the usual antiphlogistic remedies must be employed, according to the violence of the disease, modified only by the existence of pregnancy. For details upon the method of treatment, the reader is referred to works upon the subject.

DISORDERS OF THE CIRCULATING SYSTEM.

585. It cannot appear surprising that the circulating system should suffer derangement during pregnancy, if we recollect that in addition to the direct effect produced upon it by the gravid uterus, it is also greatly influenced by the sympathetic irritations of other organs. Thus, even if it did not sympathize with the uterus, still it would be liable to disturbance from disordered stomach or bowels, or from impeded respiration. The influence of pregnancy, therefore, upon the heart's action, results from a combination of direct sympathy with the uterus, and with the disorders of other organs or systems.

CHAPTER I.

PALPITATION OF THE HEART.—FAINTING.

586. I. Palpitation.—Almost all females suffer from attacks of palpitation at some period or other of their pregnancy, especially those of a nervous and hysterical temperament. "It is certain," says M. Capuron, "That delicate, hysteric, and irritable females are more tormented with palpitations during pregnancy than others, whether the inconvenience were felt before conception, or whether this new condition have augmented their peculiar sensibility; or lastly, whether it be caused by flatus pushing up the diaphragm, and oppressing the heart, as in the cases published by Senac, Malpighi, &c.*

By some it is felt immediately after conception; by others at the period of quickening; and by a third class towards the end of gestation. The attack may be occasional, disappearing spontaneously, or it may continue days, weeks or even months. I have noticed that patients who are exempt from morning sickness are more liable to attacks of palpitation and fainting.

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* Mal. des Femmes, p. 411.

587. *Causes.*—It is usually stated, and I believe correctly, to arise from sympathy with the uterus, especially in the early months of pregnancy, and from mechanical pressure in the latter months of gestation.

M. Gardien considers that "the palpitations arising from pregnancy are of a purely nervous character, and one of the numerous symptoms of an hysterical affection." "Two causes, dependant upon their new condition, occasion them to be more frequent and more fatiguing than at other times. The pressure of the womb upon the iliac arteries and abdominal vessels occasions a reflux of blood towards the superior parts of the body. And in the latter months of gestation, the stomach and diaphragm are pressed upwards, the pericardium and the heart more or less displaced, which must necessarily influence the movements of this latter organ, and render them more irregular and violent than ordinary."*

Dr. Campbell observes that this affection "consists in violent and irregular action of the heart, which may arise either from its functions or those of the larger canals being obstructed, and from causes acting through the medium of the nervous system, of which by far the most frequent is mental emotion. To these may be added surfeiting, indigestion, and torpid bowels. Women of acute feelings, and of a plethoric habit of body, are most subject to palpitations. The progressive enlargement of the gravid uterus, its consequent encroachment on the thoracic cavity, and the interruption which so large and ponderous a body must give to the circulation in the aorta and its immediate divisions, will sufficiently explain the occasional occurrence of this affection."†

M. Imbert denies that pressure can have anything to do with it. There is no doubt, at least, that if it have any influence, it is directly contrary to M. Imbert's theory of disease.

Among the exciting causes may be enumerated mental emotion, disordered stomach and bowels, flatulence, difficult respiration, errors of diet, &c. The motions of the child not unfrequently give rise to it, and it may result from a change of temperature or of position. Thus, it is some time before some patients can bear the horizontal posture in bed; and even changing from one side to the other will often produce it. Siebold places general plethora among the most influential causes.

Palpitations may also arise from organic disease of the heart during pregnancy, but these cases are not common.

588. *Symptoms.*—The attack may come on suddenly, or be preceded by some functional disorder. The patient feels the heart strike violently against the ribs, so as to shake the whole body, and even to

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* Traitè des Accouch. vol. ii. p. 86.

† Midwifery, p. 512.

be audible to the sufferer. If it continue, the arteries of the body participate more or less; and the patient will complain of pulsation throughout the whole frame. In general the heart's action is regular, though excessive; but in some cases a marked and frequent intermission may be observed. If asleep when the attack occurs, she starts up suddenly, as it were in a fright; and if walking, she is obliged to stand still.

Other organs also participate in the distress: the respiration becomes hurried or impeded, and the nervous system is disturbed, giving rise to head-ache, giddiness, imperfect vision, noise in the ears, and to a sensation of approaching apoplexy. It is often connected with, and increases the tendency to the hysteric affections so common during gestation.

Generally speaking, palpitations can scarcely be called a serious disorder, though very inconvenient, from the interruption of the patient's rest, and the difficulty of taking sufficient exercise. In some few cases it is said to have aided in causing abortion; and Dr. Burns supposes that its continuance may excite pulmonic disease, though this appears to be rather problematical.

589. *Treatment.*—If we are called to the patient during a paroxysm, our first duty will be to place her in that posture which affords the greatest comfort, either lying down, or supported by pillows. If she be of a robust, plethoric habit, we must have recourse to venæsection. This will generally afford some relief. If, however, she be delicate, and of a nervous temperament, it may not be advisable, but we may substitute quiet, and antispasmodics or stimulants, such as hartshorn, assafœtida, valerian, camphor, &c. Opiates are often very useful, either alone or in combination. I have found an opium or belladonna plaster over the region of the heart very beneficial: in other cases, an application more decidedly counter-irritant succeeds better.

During the intervals between the paroxysms, tonics may be given, and the preparations of iron, especially the muriated tincture, have been strongly recommended. The antispasmodics may also be continued, and the spine rubbed with a stimulating embrocation. The state of the digestive organs must be carefully regulated, and the bowels kept free. The diet should be light and nourishing, and very little food should be taken in the morning. The head should be raised by pillows during the night.

Exercise in the open air is necessary to the patient's health, but fatigue should be avoided, as well as all mental emotion, or other exciting causes.

The dress should be so arranged as that no unequal or excessive pressure should be felt.

590. II. Fainting.—Fainting is not a frequent occurrence during gestation, except perhaps at the time of quickening. It does however occur at other periods, either occasionally or repeatedly, or even peri-

odically, especially in those who do not suffer from nausea and vomiting. I have known a patient subject to it, from very slight causes, during the whole period of pregnancy. Others suffer from it during the time of parturition, whether previously affected by it or not.

Healthy females are sometimes so attacked, but more frequently the weakly and delicate.

591. *Causes.*—It seems sometimes a consequence of palpitation, and is doubtless caused by a disturbance in the cerebral circulation, whether the heart or brain be primarily affected. "As in the gravid state, fainting seizes individuals so suddenly, and that too while they are in perfect health, it is difficult, more especially in the early months, to account for it, since the uterus at this period cannot, from its bulk, produce any interruption or irregularity in the circulation of the heart or larger vessels. The womb, however, may influence the heart in another way, viz., through the medium of the nerves, whereby irregularity of its action, as often happens from a similar cause on other occasions, is produced; this inordinate action may lead to some irregular distribution of the blood in the cerebral vessels, and hence fainting."*

It is often excited by the first movements of the child, although they are very weak; and by subsequent ones, when strong. Want of sleep, mental emotion of a violent kind, great exertion, rapid motion, offensive sights or odours, heated rooms, &c. will give rise to it. It is also said to be induced by the opposite states of anemia and plethora.

592. *Symptoms.*—There are generally premonitory symptoms, but their course is so rapid that the patient is unable to call attention to them. She suffers from a sense of languor, weariness, and weakness, with a frequent inclination to sigh or yawn; surrounding objects seem turning round; her sight becomes obscure; she fancies that different things are floating before her eyes; her face becomes pale; there is a rushing noise in her ears, and she faints or becomes insensible. During the fit, the wrist is pulseless, the heart beats very faintly, respiration is nearly suspended, the muscles lose their power, and a cold sweat breaks out over the body. There are, however, no convulsive motions of the limbs, nor any frothing at the mouth. After an interval, varying from a few minutes to several hours, respiration becomes more distinct, the patient utters a few long-drawn sighs, the pulse at the wrist becomes perceptible, the color partially revisits the face, and consciousness is restored. In some cases, consciousness is not entirely lost; and in others, still more rare, it is long before it is regained. The patient may even pass into a state of asphyxia, and die.

Dr. Burns has described another form of the disease. He says, "There is a species of syncope that I have oftener than once found to prove fatal in the early stage of pregnancy—dependant, I apprehend, on organic affection of the heart, that viscus being enlarged, or otherwise diseased, though perhaps so slightly as not previously to give rise to any troublesome, far less any pathognomonic symptoms. Although I have met with this fatal termination most frequently in the early stage, yet I have also seen it take place so late as the sixth month of pregnancy."*

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* Campbell's Midwifery, p. 511.

It is probable that an occasional fainting may do no mischief to the fœtus; but we cannot suppose its frequent occurrence to be innocuous, when we consider the dependance of the fœtus upon the maternal circulation for the aeration of its blood. Cases are on record, where abortion followed repeated syncope.†

Towards the end of pregnancy, fainting is regarded with great suspicion, not so much for the immediate consequences, as for its effect upon the convalescence after parturition.

Syncope is a very unpleasant occurrence at the time of labor; it sometimes follows each pain, causing great alarm, and without apparently influencing the progress of delivery, as in a case under my care, in which no evil results followed;‡ but in other cases the convalescence would seem to be compromised by it. Dr. Merriman judiciously observes, "It seems to be one of those occurrences during labor, which should never be totally disregarded, or treated with indifference. An accoucheur was once attending a young woman, in labor of her first child. Soon after it commenced, and during his absence, she fainted without any obvious cause. On his return, the circumstance was mentioned, but as by this time she appeared perfectly recovered, no further notice was taken of it, and she was safely delivered, without any other unusual symptom. On the third day after delivery, she took a dose of some aperient medicine, and while in the act of relieving herself, she fell back, and immediately expired."§

593. *Diagnosis.*—It will be necessary to distinguish this fainting, arising from functional disturbance, from that induced by organic disease of the heart, which in most cases may be done by auscultation.

Further, we may have fainting as a consequence of internal hemorrhage, but it is generally more prolonged, accompanied with tension of the abdomen, dull pain and weight in the pelvic region, permanent blanching of the surface, and, after a short time, by escape of blood from the vagina.

Syncope may be distinguished from an *hysteric* paroxysm by the absence of convulsive motions of the limbs, distortion of the face, and frothing at the mouth.

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* Midwifery, p. 264.
† Capuron: Mal. des Femmes, p. 415.
‡ Dewees: Midwifery, p. 252.
§ Synopsis of Difficult Parturition, p. 137.

594. The *Prognosis* is only grave in those cases where the syncope is repeated and prolonged, accompanied with head-ache, or where there is evidence of organic disease.

595. *Treatment.*—During the paroxysm, our first attempt must be to restore the circulation by means of stimulants, as wine, hartshorn, carbonate of ammonia, &c. The patient should also be laid in a horizontal posture, with the head low, and a current of air be suffered to blow over the face. A sprinkling of cold water is often successful. If the insensibility be prolonged, the patient must be brought near the fire, and frictions used to "preserve the heat of the body; otherwise a protracted syncope may end in death." Between the attacks, we must endeavour to strengthen the system by air and moderate exercise, and the exhibition of tonics, such as quinine, infusion of orange peel, &c. The bowels must be carefully attended to, and every possible cause strictly avoided.

If the palpitation or fainting should depend upon organic disease of the heart, and labor should come on, it appears to me desirable to hasten the labor by the application of the forceps. In a case of disease of the uritral valve, which has recently come under my care, I have adopted this plan with entire success.*

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* Churchill's Theory and Practice of Midwifery, p. 552.

DISORDERS OF THE RESPIRATORY SYSTEM.

CHAPTER I.

DYSPNŒA.

596. Difficulty of breathing may attack females at any period of pregnancy; sometimes we find it during the early months: in other cases about the period of quickening; but most frequently during the latter months.

A different pathological cause has been assigned for each of these periods. During the early months, the affection would seem to be of an hysteric character, brought on by the sympathy with the uterus, very often connected with the palpitations of which I have recently treated, and occurring in women of a nervous temperament. This seizure is generally sudden, the duration uncertain, though short, and without constitutional disturbance. M. Capuron remarks that "some naturally nervous females breathe with more than ordinary difficulty after conception, owing to a state of spasm produced by sympathy of the uterus with the entire organism. Others only experience this about the middle of pregnancy; and these are chiefly those of a plethoric or sanguine temperament, who previously menstruated profusely, or those who lead an indolent life, and indulge in the pleasures of the table. Lastly, there are few women whose respiration is not more or less impeded during the latter months of pregnancy, especially with the first child, because then the abdominal parieties are more resisting, and press the womb more upwards towards the diaphragm."*

When the dyspnœa occurs about the middle of gestation, it is principally (though not entirely) among the robust and healthy, and seems to be owing to a plethoric or congested state of the lungs. Some authors attribute it to pneumonia, which is said to be not infrequent.

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* Mal. des Femmes, p. 432.

Imbert speaks of the occurrence of pulmonary apoplexy as a cause of dyspnœa. He says, "The dyspnœa which accoucheurs attribute to plethora would be rendered more intelligible by stethoscopic researches. What is the state of the pulmonary parenchyme, or of the mucous membrane, in this affection? It is probably very variable. These researches would be the more useful, as it is of the greatest importance to prevent pulmonary congestions. Many accoucheurs have pointed out the frequency of pneumonia in pregnant women, and the danger which attends it, and I have had three times an opportunity of seeing this melancholy prognosis verified. It is in these cases that we observe the terrible congestions known by the term 'pulmonary apoplexies.'"*

In this variety there is often a good deal of constitutional disturbance; the countenance is flushed, the pulse is quick, and the patient complains of a weight in the head, &c.

The third variety of dyspnœa which occurs during the latter months of pregnancy depends apparently upon a mechanical cause, viz., the pressure of the enlarging uterus, which, carrying above it the intestines, ultimately pushes up the diaphragm, and by distension of the abdominal parietes prevents the expansion of the chest.† This is observed especially in first pregnancies, in which, owing to the resistance offered by the abdomen, the uterus is more perpendicular than subsequently. If in such cases there be any inflammation of the chest, the distress is much aggravated.

I shall merely mention, as another cause, the presence of organic disease, as phthisis, during (though unconnected with) pregnancy.

Amongst the exciting *causes* may be mentioned excessive fatigue, mental emotions, affections of the circulating and nervous systems; and especially a peculiar condition of the latter arising from certain odours. A curious variety of the disease, depending upon this cause, has received the name of hay-fever. This occurs during the summer, from the perfume of new hay. The patient may be quite free from the disease in town, but whenever she drives into the country, and inhales the rich odour of the newly mown grass, the dyspnœa comes on, and is only relieved by removing to a distance from the cause.

597. The *Prognosis* of this disease is not serious, except when there is an organic affection of the lungs or heart.

598. *Treatment.*—During the early months, when the disorder is merely an hysteric attack, it is often relieved by antispasmodics, or diffusible stimulants, such as valerian, hartshorn, ether, &c. with mild tonics during the intervals. If we fail, still, in many cases we shall find the dyspnœa cease as pregnancy advances.

When the attack arises from congestion of the lungs, venæsection will be necessary, with brisk purgatives; and if pneumonia be present, the depletion must be more extensive, and tartar-emetic or calomel be given in moderate doses. In ordinary cases, pregnancy is no bar to the employment of antiphlogistic measures.

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* Mal. des Femmes, vol. i. p. 401.

† Gardien: Traitè des Accouch. vol. ii. p. 85.

Other organic diseases must be treated according to the rules laid down in the best authorities, but which it would be foreign to the object of this treatise to enumerate.

As for that which may be called mechanical dyspnœa, little can be done beyond choosing the best position for the patient, and keeping the bowels free. In such a case as M. Desormeaux's, there could be little doubt about the propriety of inducing premature labor. Fortunately such cases are very rare.

In all cases the state of the stomach should be attended to; the diet so arranged as not to give rise to flatulence, which will inevitably increase the distress; and the bowels should be kept free.

Of course, all exciting causes should be most sedulously avoided.

CHAPTER II.

COUGH.

599. CONNECTED with the dyspnœa described in the last chapter, but often independent of it, is a troublesome cough, either constant, short, and teasing, or recurring in violent paroxysms, occasioning great distress and inconvenience. The cough which is peculiar to pregnancy occurs only in the earlier and latter months of pregnancy; but the patient may suffer from catarrh, accompanied by cough, at any period. During the early months, the affection is induced by the sympathy between the pulmonary organs and uterus, and is evidently nervous or spasmodic. M. Miquel thus speaks of the cough of pregnant women: "Cough is evidently a clonic convulsion of the respiratory muscles, and attacks pregnant females very frequently. Sometimes it manifestly depends on the sympathetic influences of the uterus, as in the first months of pregnancy; sometimes it is the result of the impediment which the progressive development of the organ offers to respiration; of the displacement of the diaphragm, and the compression of the lungs which is the result of this: at other times it depends on partial plethora of the lungs, and is accompanied with pain of the head, continual sense of heat and suffocation, &c. In all these cases, there is no mucous or purulent expectoration; this excretion occurs only in catarrhal cough, or in organic diseases of the lungs. The symptoms are always very inconvenient, and this inconvenience, says an ancient accoucheur

(*Peu*), may degenerate into something worse, and becomes so much the more dangerous, as it induces a long series of affections, capable of causing the death of the mother and child. The same author says that the epidemic cough of 1675 so powerfully affected pregnant females, that most of those who were attacked by it died."*

There is rarely any expectoration, and no evidence of catarrh of the mucous membrane, or disease of the parenchyma of the lungs. The pulse is not quickened, and there is no feverishness. The principal distress arises from the interruption to sleep, and the repeated shocks. It most frequently subsides after a time, spontaneously; but it may continue the entire period of gestation, and terminate with the delivery. In some cases it may even increase for a time after delivery.†

The cough which occurs at the latter period of pregnancy is chiefly owing to a mechanical cause, the same which gives rise to dyspnœa. The pressure of the enlarged uterus upwards on the diaphragm, and backwards on the aorta, by occasioning a sense of tightness, and a slight arrest of the circulation from the superior parts of the body, produces irritation in the lungs, and a sense of uneasiness, to relieve which is the object of the cough.‡ The distress at this time is greater than at any earlier period, and also the probability of serious consequences. The repeated shocks gradually loosen, and ultimately rupture the connection of the placenta with the uterus, and so bring on premature labor, and the child is lost. After delivery the cough ceases as the cause is removed.§

There is a third species of cough, not however peculiar to pregnancy, but which not unfrequently occurs at this time, either in consequence of catarrh, or pulmonary congestion, and which is attended with pain in the chest, quickness of pulse, and some fever. There is more or less expectoration, headache, loss of appetite and sleep, exhaustion, &c. and the effects may be very mischievous. The stethoscope will indicate the presence of congestion, bronchitis, or pneumonia. It is most frequent in women of a plethoric habit.

Spasmodic pains in the muscles of the chest and abdomen are common to all the varieties, and in all the cough is much increased by flatulence and dyspepsia.

It would be very desirable to have the results of more extended stethoscopic investigations in these cases. As far as my experience goes, in the two first there is nothing very peculiar. The respirations are distinct, but rather shorter than usual.

600. *Diagnosis.*—The stethoscope will enable us to detect any organic disease, as pneumonia, phthisis, &c.; and if nothing peculiar

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* Essay on Convulsions, p. 67.

† Imbert: Mal des Femmes, vol. i. p. 405.

‡ Capuron: Mal des Femmes, p. 436.

§ Meigs: Philadelphia Practice of Midwifery, p. 110.

be found, the disorder must be considered as one of the two varieties first described.

601. *Prognosis.*—The majority of authors agree in considering these attacks as serious. The loss of rest, headache, and pains injure the health of the mother, and when the cough is violent and frequent, there is great probability of miscarriage, or premature labor. M. Capuron thus expresses himself: "In general the cough which occurs during pregnancy is unfavorable, whatever be its cause. The shocks which it gives to the system are dangerous in proportion to their frequency. They may interrupt sleep, cause general irritation, even fever, cerebral congestion, hemorrhages, &c. It is easily conceived, also, that the patient runs a risk of abortion, from the disturbance communicated to the uterus by the agitation of the diaphragm and abdominal muscles —a disturbance which almost always ends in the rupture of the connection between the placenta and uterus."*

602. *Treatment.*—On account of the danger of abortion, it is desirable to relieve the disease as speedily as possible. With the nervous cough of early pregnancy, antispasmodics may be tried. Very often narcotics are useful, especially if with them mild expectorants be combined. In some few cases it may be advisable to bleed, but in general counter-irritation is more successful. The bowels should be kept free.

During the latter months, bleeding is more requisite for the purpose of relieving the circulation, but it should not be carried to any great extent. Small doses of opium, or Dover's powder, or paregoric elixir, will be useful.

We must be prepared, however, in all these cases, for failure, or only partial success; but if we can carry our patient to the full time, we need have no fear but that the cough will subsequently disappear.

The third variety I have described requires antiphlogistic measures; venæsection, small doses of tartar emetic, or calomel with ipecacuanha and blisters, until the local disease (indicated by the stethoscope) be overcome.

CHAPTER III.

HÆMOPTYSIS, OR SPITTING OF BLOOD.

603. THIS formidable disorder is fortunately very rare, though it does sometimes occur both in the earlier and latter months of pregnancy. Spitting of blood sometimes happens from the rupture of a small vessel

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* Mal. des Femmes, p. 437.

at the back part of the mouth or nares, but this is of little consequence, and may be easily distinguished from the blood derived from the lungs. "When blood proceeds from the posterior nares," says Dr. Campbell, "it will cease when the head is inclined on the chest, or it will flow from the nostrils; when from the fauces, this can be determined by inspection. Blood flowing from the air passages, or lungs, is invariably brought up by hawking, or coughing, and is preceded by dyspnœa, pain in the chest, tickling sensation about the fauces, with acceleration of the pulse, and flushed cheeks.* Women of sanguine temperament are most obnoxious to hemoptysis.

The attack may be simple, consisting of a secretion of blood from the mucous membrane of the bronchi, and occurring more frequently at the commencement of pregnancy owing probably to the sudden suppression of menstruation, and being in fact a species of vicarious menstruation. I have had a lady under my care with whom this occurred in three or four successive pregnancies, about the second or third month. The quantity expectorated was considerable, but without effort, and with little or no cough. The stethoscope revealed no morbid sounds, and the chest was clear on percussion. Astringents, counter-irritants, and opiates sufficed to arrest the discharge, and the patient speedily recovered her usual health.

Or the blood may be derived from the rupture of a small arterial branch distributed to the mucous membrane, in consequence of violent coughing or pulmonary congestion. In other cases the blood is poured into the parenchyma or cells of the lungs, constituting pulmonary apoplexy.

Lastly, it may depend upon organic disease of the lungs, as phthisis, which often runs its course quietly and unnoticed during pregnancy, unless such a symptom as the present occurs.

604. *Symptoms.*—The accompanying symptoms or effects will depend a good deal upon the extent to which the blood is effused. The patient will complain of tickling of the fauces or larynx, sense of heat and constriction about the chest, and some dyspnœa and cough, with the bloody expectoration in the simpler cases. There may be weakness, exhaustion, even fainting, if the loss be great.

The stethoscopic phenomena will indicate the presence of fluid in the bronchial tubes. When organic disease is present, the stethoscope will render an account of the mischief. We may discover the signs of pulmonary apoplexy, of phthisis, &c. In many of these cases the spinal column is crooked, and the chest malformed.

605. *Diagnosis.*—The absence of the pathognomonic signs of pulmonary disease will at once point out the sympathetic or mechanical origin of the cough; or their presence will show that the attack is not peculiar to pregnancy.

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* Midwifery, p. 509.

606. *Prognosis.*—There is more danger from the causes and consequences of the simpler cases than from the actual loss of blood, which is seldom great. When organic disease is present, its character and progress will determine our prognosis.

607. *Treatment.*—The first effort of the practitioner must be if possible, to remove the cause. If it arises from a plethoric condition, or from local congestion, venæsection must be performed, to an extent regulated by the condition of the patient, unless the hemorrhage have been profuse, in which case it will be wiser to try the effect of opiates, acetate of lead, acids, digitalis, &c.

When the attack has somewhat subsided, counter-irritation will be very serviceable and may be kept up for some time.

Hemoptysis from the presence of organic disease will require special treatment, according to the rules laid down for the management of the different diseases.

With regard to preventive measures, M. Gardien has pointed out the most effectual: "Cette hemoptyse des femmes grosses est si dangereus, qu'il est prudent de conseiller à celles qui crachent le sang abondamment, de ne plus devenir mères par la suite."*

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* Traitè d'Accouch. vol. ii. p. 87.

DISORDERS OF THE NERVOUS SYSTEM AND SENSES.

CHAPTER I.

INSOMNIA, OR SLEEPLESSNESS.

608. There is scarcely a more distressing complaint to which pregnant women are subject than sleeplessness.* It is not unfrequent, and it appears chiefly to affect females of a delicate constitution, or of nervous or hysterical habits. It may occur at an early period of pregnancy, though it is more common during the latter months, and it may persist for a considerable time.

609. *Causes.*—By some authors it has been attributed to general or local plethora; but though the feverishness induced by the former may occasion loss of sleep, the affection is of a different character altogether. The sleeplessness of pregnant women appears to be a purely nervous affection,† excited by various causes, such as a heated bedroom, too little exercise, excessive motion of the child, uneasy sensations in the uterus, or sometimes apparently without any cause at all.

610. *Symptoms.*—If the affection be long continued, the patient will suffer very severely. She becomes restless, feverish, agitated, peevish, and fanciful. The appetite diminishes, the bowels and secretions generally are deranged, the skin is hot and dry, and the pulse quick. She complains of great weakness and misery, and ultimately the mental functions are impaired. In some cases more serious effects are produced upon the brain, the patient being seized with paralysis or convulsions.

There is a peculiarity as to sleep which sometimes occurs with pregnant women, which must not be confounded with want of sleep. I allude to those cases where the patient is unable to sleep during the night, but obtains rest during the day, exactly reversing the natural order. If this habit cannot be changed, it must be indulged, as sleep at some period of the twenty-four hours is absolutely necessary.

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* Imbert: Mal. des Femmes, vol. i. p. 443.

† Gardien: Traité d'Accouch. vol ii. p. 79.

There is a species of sleep without benefit, to which I may just refer here, though it does not strictly belong to this section. I mean when the rest is disturbed by frightful dreams; and which may produce equally unpleasant results. It is not very uncommon, though it does not often continue long, nor require medical advice. Some cases, however, are of more importance. De la Motte relates one, where the patient, pregnant for the first time, and in the ninth month, dreamed that she saw a frightful spectre, which insisted upon lying down beside her; she awoke in a state of great horror, and was seized with labor pains immediately. However, the labor made but slow progress; at the end of thirty-six hours the head was at the lower outlet, but the mother was so exhausted that De la Motte terminated the delivery. The child was still-born, and the mother died two hours afterwards.

611. *Prognosis.*—If the insomnia be slight, and of short duration, we need have no fear; but if continued and obstinate, the case may be very serious.

612. *Treatment.*—The indication is to calm the nervous irritation if possible, and very simple means will sometimes succeed. Dr. Denman mentions a draught of cold water, just as the patient steps into bed, or wrapping a wet towel round one hand. Pediluvia at bed-time will occasionally answer the purpose; but they should be avoided if there be any disposition to abortion or premature labor. A laxative is often very useful, by cooling the system. If these means fail, an anodyne must be given, and it is better to begin with the mildest. In some cases it may be advisable to abstract blood from the arm, in moderate quantity. All stimulants must be avoided; the patient should take neither tea nor coffee, and the diet generally should be bland, light, and nutritious. Air and exercise are of great use, if taken without excessive fatigue. If the patient be very weak, tonics may be necessary; but they must be given with caution, lest they add to the evil instead of removing it.

CHAPTER II.

DESPONDENCY, OR HYPOCHONDRIASIS.

613. It is not surprising that a degree of low spirits or despondency should attend a first pregnancy, when we consider the uncertainty the patient must feel both as to the suffering and the result, especially where her friends are so injudicious as to inform her of the

various accidents which have occurred within the circle of their acquaintance.

Again, after her first confinement, supposing that to have terminated regularly, any deviation from the ordinary course of gestation in a subsequent pregnancy—for example, sickness lasting the whole day, delay in quickening, &c. will excite fears of something being wrong, and anticipations of serious consequences, at the time of parturition, which it is very difficult to remove, as the patient is apt to suppose that we are administering comfort without strict regard to truth.

I have already mentioned that the sympathy of the brain with the womb, and the discomforts of early pregnancy, produce a state of mind peculiarly susceptible to morbid impressions. It may also produce positive despondency, without any special cause, the patient not anticipating any peculiar danger, and their being nothing unusual or alarming in her condition. Still she is unable to keep up her spirits; she becomes melancholy and unhappy, is frequently in tears, and sees every thing around and before her through an unfavourable medium.

Should there be any circumstances of a distressing character connected with the patient, this melancholy disposition will be much increased, and its termination probably much more unfortunate. Many examples might be adduced; but I shall merely mention, that among the poorer classes I have repeatedly seen the worst consequences follow the desertion of a wife and family by the husband, or even from the death of the husband. Of ten deaths after labor, which occurred in four years in the Western Lying-in Hospital, four were connected with circumstances of this deplorable kind.

The attack is often confined to the early months of pregnancy, during which the bodily discomfort is the greatest; as this diminishes, the tone of the mind is restored, and the despondency disappears.

Even where the despondency continues until the period of parturition, we see it disappear as the pains set in and increase, so that the patient, who for months has been expecting death, at the moment when she supposes she has to meet it, finds her courage rise, and her fears vanish. But this is is not always the case: in some, the despondency and dread deepen towards the termination of gestation, until the patient is occupied solely by her fears, to the exclusion of all interest in life. There can be little doubt, that in many cases this is owing to to a cerebral derangement nearly equivalent to insanity, in which it may end even before delivery. The danger, however, is by no means ended, if the patient arrive safely to the commencement of labor. A continuation of these fearful anticipations may both retard the progress of labor, and produce puerperal mania afterwards.

The bodily health, in the worst cases is more or less deranged; the pulse is quickened, the tongue is loaded, the stomach disturbed; there is nausea, perhaps vomiting; the appetite is diminished or destroyed, the bowels confined or irregular. The patient often complains of heaviness or a dull pain in the head. In some cases there is a degree of fever present.

614. *Treatment.*—In the slighter cases, attention to the bowels, exercise in the open air, cheerful society, and a fair representation of the unfounded nature of her fears, will often suffice to relieve the patient's mind.

But these may all fail in the more aggravated forms, and then it will be necessary to examine carefully as to the state of the brain. "If the despondency be preceded by excitement, marked by heat of skin and frequency of pulse, or by congestion at the base of the brain, marked by slow pulse and feebleness or languor, venæsection will be proper; and in determining this, no attention is to be paid to the paleness of the visage."

In addition, the bowels must be kept free, and the diet regulated.

As to the moral treatment, I have always found that a fair and honest statement concerning the suffering and danger in prospect, has far more effect than an attempt to make light of the case. By admitting her expectations of considerable suffering to be true, we are more likely to gain credit with her when we insist upon the risk being very slight.

I have entered so fully into the mental disturbances of pregnancy in the introductory chapter, that I have not thought it necessary to lengthen the present sketch.

CHAPTER III.

CEPHALALGIA. HEADACHE.

615. NEXT to disturbance of the stomach, headache is probably the most common complaint of pregnant women. It attacks (though with different characteristics) the hysterical and nervous, the robust and plethoric. It may be of no consequence, or it may in itself be serious, or the precursor of other graver attacks. We should naturally anticipate its frequency, for the brain has not only its own sympathy with the gravid uterus, like any other organ, but the nervous system is the centre to which all other irritations converge.

It may occur at any period of pregnancy: in the early months it is generally of a nervous character; at a later period it arises most frequently from plethora. In the former case, Dr. Burns thinks that the spinal marrow is primarily, and the head only secondarily affected.* The latter cases have also been attributed to the pressure of the gravid uterus preventing the descent of the blood to the inferior extremities.

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* Midwifery, p. 265.

616. *Causes.*—Among the exciting causes of *nervous* head-ache may be enumerated mental emotion of any kind, fatigue, constipation, &c.: and among those exciting plethoric head-ache, errors in diet, the use of stimuli in eating or drinking, warm baths, excessive exertion, &c.

617. *Symptoms.*—Nervous head-ache may occupy the entire head, or only the half. ("*Hemicrania.*" "*Megrim.*" "*Migraine.*") In some cases it is still more limited, being seated in the vertex or occipital region, and well defined. ("*Clou hysterique.*") It may be constant, or in paroxysms; a dull aching, or an acute throbbing pain, with or without intolerance of light or sound. I have remarked that those patients who suffer from light are seldom annoyed by sound, and vice versa. There is seldom any increased arterial action: the eye is not suffused, nor the face flushed. Denman mentions a form of paralysis which comes on during pregnancy, and disappears after delivery.* "The functions of the brain are often disturbed in the time of pregnancy, by which headaches, drowsiness, and vertiginous complaints are occasioned; and sometimes pregnant women have a true hemiplegia, as well as many other nervous symptoms. . . . . . The palsy is always preceded by such symptoms as indicate an uncommon degree of uterine irritation, on which it is reasonable to consider it may depend: more especially as, though relieved, it is never cured during pregnancy, and scarcely ever fails to leave the patient perfectly free within a few months after delivery, as has been proved in a variety of cases."

When the head-ache is in consequence of plethora, on the contrary, the pulse is quick, full, and strong, the face flushed, the eyes bright or suffused, the eye-lids heavy and closed, with intolerance of both light and sound. The pain may be dull or acute, commencing over the eye-brow, and extending to the entire head, with but few intervals of ease.

Either variety may arise from constipation; but in addition to their peculiar characteristics, we shall then find symptoms of gastric disturbance, such as loaded tongue, bad taste in the mouth, &c. The head-ache also will be increased after meals.

618. *Prognosis.*—If the head-ache be purely nervous, there is no danger; but if it arise from congestion, or vascular action in the head, our opinion must be guarded, as it may be of importance in itself, but more so as threatening convulsions if not relieved.†

619. *Treatment.*—Nervous head-aches may usually be relieved by

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* Denman's Midwifery, p. 164.

† I have transferred the chapter on convulsions to the section on Diseases of Childbed in this edition.

antispasmodic medicines, or diffusible stimuli, such as valerian, hartshorn, &c. Eau de Cologne applied to the forehead, or a blister behind the ears, is often useful. A brisk purgative should also be given occasionally.

A much more active treatment will be necessary when there are any symptoms of plethora or vascular excitement about the head, both for the relief of the pain, and for the purpose of anticipating evil consequences. Blood should be taken from the arm, in quantity according to the strength of the patient and the relief afforded; and this should be repeated, or leeches applied to the temples, if necessary. We are not to rest satisfied that enough has been done until the pain is relieved, and the arterial system reduced to its ordinary standard. Purgatives should also be administered from time to time. After a certain amount of good effect has been produced, great benefit will often result from the application of a blister to the nape of the neck.

CHAPTER IV.

NERVOUS AFFECTIONS OF THE EYES AND EARS.

620. Certain nervous affections of the eyes and ears are not very unfrequent in females during pregnancy; nor is this surprising when we consider how many irritations are concentrated, as it were, upon the nervous system, and thence reflected. The majority of these attacks are purely nervous; but in some there appears to be some congestion of the brain, or of the organ affected.* They may either come on immediately after conception, or not till a later period.

621. If the *eyes* be chiefly affected, the patient may imagine that all the surrounding objects are dancing or turning round, or she may be so dazzled as to be incapable of distinct vision. In other cases she fancies she sees objects in the air, or flashes of light, &c.; more rarely, she sees everything double: or lastly, she may become quite amaurotic.† The following remarkable case I quote from Dr. Davis's work. "Mad. Pivert, æt. 43, in the fifth month of her ninth pregnancy, became the subject of a deep seated pain of the *right* eye, suddenly, and without any known cause. This did not manifest itself by any external sign. The patient experienced no heat in the organ. Examination could discover neither redness nor secretion of tears. There was, however, a sensation of strong pulsation at the bottom of the

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* Capuron: Mal. des Femmes, p. 447.

† Gardien: Traitè des Accouch. vol. ii. p. 76.

orbit, accompanied by acute and frequently repeated lancinating pains, by the appearance of rapidly darting sparks before the eyes, and by errors of vision. Pain of the forehead, and about the root of the nose, together with a sense of weight and oppression at those parts, aggravated the patient's distress. In a short time the rays of light ceased to irritate the retina; the eye became insensible to the contact of the finger, and the patient could intensely stare at the sun without producing any painful excitement: the eye, however, retained its form and natural transparency. Inability to sleep accompanied this local affection for several weeks. A bleeding at the arm, which moderated the symptoms, was the only curative measure had recourse to. The delivery was happily accomplished. In the course of some days subsequently, the lady found that she could perceive light with the eye which she considered as lost to her; and after some days she could clearly distinguish objects with it. In this state she remained, or rather than otherwise, gradually improved upon it for eighteen months, when she conceived of her tenth child. About the fifth month of her pregnancy, as on the former occasion, she was again seized with similar pains, although much more intensely severe, of the same eye. They were, moreover, accompanied by a frontal cephalalgia, which assumed a periodical character, commencing every day at 5 P.M., and terminating about 7 or 8 P.M. by a profuse perspiration. There was an aggravation of the symptoms every other day. It was stated by the patient that the left eye had been gradually getting weaker, and that she saw with it only sufficient to guide herself in walking, for some time before it began to suffer much pain; that she had used blisters, applied to the nape of the neck and behind the ears, which she could not support, on account of their frequently exciting faintings, by the irritation which attended them, which also equally resulted from the use of ardent spirits. On examining the vision of this lady, it was very perceptible that the pupil of the *right* eye was more dilated than that of the left; that, moreover, it had no mobility, and that the eye itself was totally insensible to the contact of the finger; that the pupil of the *left* eye had already lost its natural form, and that its movements likewise were less perfect than natural. The head-aches already spoken of returned every evening, and terminated in profuse perspiration. The pulse during these paroxysms, instead of being rendered stronger and more accelerated, became actually slower and more concentrated. The patient was at this time in the sixth month of her pregnancy. The case, therefore, required that the plan of treatment should be such as might consist with the well-being of the fœtus. Accordingly, emetics, by reason of their tendency to induce abortion, were rejected. The medical attendant thought it more advisable to depend upon local depletion, by means of leeches applied to the eyelids and to the temples, and upon fumigations of gum-benzoin to the eyes, and a seton to the nape of the neck. The smoke was received into a funnel, and by it conducted to the eye which was to be submitted to its action. After a month of this treatment it recovered pretty freely its functions, but the *right* eye gave no indications of its possessing any sensibility whatever to the rays of light. It, however, yet remained very uncertain whether, after delivery, (as had taken place after the preceding pregnancy), it might not be in some degree restored. This hope was disappointed. The labor proved a natural one, but the *right* eye retained its then state of insensibility."*

There is seldom any pain accompanying these illusions, nor an increased vascularity of the eye, except in those cases which arise from congestion, and they will be easily distinguished from that very circumstance.

622. The EARS may be variously affected: the sense of hearing may be more obtuse than usual (*dysæcia*); or it may be impaired in one ear, whilst it is preserved intact in the other. On the other hand, it may be so acute as to be painful. Again the patient may be disturbed by an incessant tingling, or buzzing, or singing in her ears. Lastly, she may lose the sense of hearing altogether. Dr. Davis has seen two cases of entire deafness during gestation. "In one case, the abolition of the sense of hearing came on suddenly during one of the early months of gestation, and very gradually returned after delivery; whilst in the other it came on by imperceptible degrees in the seventh and eight months of pregnancy, and it returned suddenly and with painful acuteness on the sixth day after delivery, when the lochia entirely ceased to flow."† Imbert‡ mentions the case of a deaf woman who recovered her hearing during pregnancy.

These nervous affections are generally temporary, when they occur at an early period of pregnancy; but, at a later period, are more apt to be permanent, and to continue even after delivery. They are seldom of any consequence, and even when they are so, it is only as evidences of more serious cerebral disease.

623. *Diagnosis*—The only important point of diagnosis, is to distinguish between a purely nervous affection, and one originating in congestion or organic disease: and this may generally be done by a careful examination of the organ itself. The concurrence of those disorders with pregnancy will also aid us. The imperfection of vision and of hearing which occurs at the commencement of fainting must not be confounded with the nervous affections of which I am speaking.

624. *Treatment.*—If these disorders be purely nervous, very little treatment will be necessary. A small blister may be applied behind the ears, or to the temples, and repeated after an interval. Tonic

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* Communicated by Dr. Bezard, Leroux, Journ. de Med. vol. iii. p. 221.

† Obstetric Medicine, vol. ii. p. 899.

‡ Mal. des Femmes, vol. i. p. 441.

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DISORDERS OF THE MAMMARY SYSTEM.

CHAPTER I.

PAIN IN THE BREASTS.—MASTODYNIA.

625. From the intimate sympathy between the uterus and mammæ, the latter change their condition at a very early period of gestation; sometimes, indeed, immediately after conception. In ordinary cases, about the second month, the patients attention is directed to the breasts, in consequence of a sensation of prickling, tingling, or shooting pain in them, accompanied with increase in size, and a degree of soreness of the nipples. If the breast be grasped, it will be found to have lost its peculiar softness, and to have acquired a firm glandular consistence; the gland increases as pregnancy advances, until it seems to constitute the entire substance of the breast, the fatty tissue having nearly or altogether disappeared. This disappearance of the softer tissue is often very remarkable. Imbert speaks of a patient of his, whose breasts—large before conception—always decreased during pregnancy, in consequence of it.*

In the majority of cases, these changes take place without causing any great distress; but in some, the suffering is considerable. This may partly arise from the fibrous envelope of the mammary gland being unusually firm, and partly from peculiarity of constitution. I have observed it in females who have previously suffered from disease of this organ. The pain may be either neuralgic, or the result of undue distension, whether the latter arise from the rapid increase in the gland, or from congestion or inflammation.

Females of a nervous temperament are the subjects of the first, and those of a full habit, of the second kind of attack. "In the first place, the nervous or irritable female, as soon as she has conceived, experiences certain sensations in the breasts; sometimes a kind of itching or tingling, with more or less swelling in these organs; at others, a feeling of spasm or constriction, extending towards the axillæ. But in proportion as pregnancy advances, the breasts become more voluminous and hard. Occasionally the patient complains of prickings, tension, or intolerable pain. Secondly, the female of plethoric or sanguine constitution is liable to the same affections, but in a higher degree; we have seen in such, mammary pain so acute as to cause agitation, sleeplessness, fever and delirium. Some have had 'engorgement,' or abscess of the breast."*

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* Mal. des Femmes, vol. i. p. 347.

626. *Symptoms.*—The patient complains of a pricking, or of acute pain in one or both breasts, varying in intensity. In most cases it excites no constitutional sympathy; the patient is cool, and the pulse quiet, though the excess of pain may cause sleeplessness and loss of appetite. But in others the pulse becomes quick, the skin hot, with feverishness, and even delirium, when the agony is great. The pain may be constant, or recur in paroxysms, and even periodically, "Murat has given the case of a lady, in whom these pains in the breast re-appeared every month, lasting two or three days, at which time she was tormented with pains in the back threatening abortion, and requiring rest in bed."†

When the pain is purely nervous, it may continue a longer or shorter time (the nearer the commencement of gestation, the shorter its duration), and then cease, without any consequences; but when it occurs in plethoric females, as the result of congestion, it is not unlikely to terminate in abscess. In some cases towards the end of pregnancy there is a considerable secretion of milky fluid; but this is arrested when the attack assumes an inflammatory character.

627. *Diagnosis.*—1. From *mammary pain, the result of suppressed menstruation.* At an early period it may be impossible to establish this distinction: but after some time, the development of the other signs of pregnancy will decide the question.

2. From *phlegmon of the breast.* The nervous pain will be distinguished by the absence of local heat, tenderness, and fever.

628. *Treatment.*—Fomentations, or frictions with an anodyne liniment, will frequently afford relief; or a poultice may be applied.

Small doses of some narcotic may be given throughout the day, and a full dose at bed-time, if the patient do not rest well.

If there be much tension and enlargement, it will be advisable to apply leeches, or to take blood from the arm.

In these cases, small nauseating doses of tartar emetic will be found useful.

Should the congestion run on to the formation of abscess, leeches in the first instance, and subsequently emollient poultices, will be necessary; and when matter has formed, the abscess must be opened.

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* Capuron: Mal. des Femmes, p. 444.

† Imbert: Mal. des Femmes, vol. i. p. 346.

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Syncope may be
sence of convulsive

medicines, in combination with antispasmodics, are frequently beneficial. The stomach and bowels must be carefully regulated, as when they are disordered, the nervous distress will be increased.

If there be any evidence of congestion, it will be necessary to take away blood, either from the arm or by leeching, and to give one or two brisk purgatives instead of the treatment just recommended.

In many cases, however, we may expect that our remedies will fail, or afford but slight and temporary relief; with such cases we must only await for the effects of time or delivery.

DISORDERS OF THE MAMMA

CHAPTER I.

PAIN IN THE BREASTS.—MAS

625. From the intimate sympathy betwee
mæ, the latter change their condition at a ve
tion; sometimes, indeed, immediately after c
cases, about the second month, the patients
the breasts, in consequence of a sensation o
shooting pain in them, accompanied with incre
of soreness of the nipples. If the breast be g
to have lost its peculiar softness, and to have a
consistence; the gland increases as pregnancy
to constitute the entire substance of the breast,
nearly or altogether disappeared. This disap
tissue is often very remarkable. Imbert spea
whose breasts—large before conception—alway
nancy, in consequence of it.*

In the majority of cases, these changes take
any great distress; but in some, the suffering
may partly arise from the fibrous envelope o
being unusually firm, and partly from peculiar
have observed it in females who have previousl
of this organ. The pain may be either neu
undue distension, whether the latter arise fro

feeling of spasm or constriction, extending towards the axillæ. But in proportion as pregnancy advances, the breasts become more voluminous and hard. Occasionally the patient complains of prickings, tension, or intolerable pain. Secondly, the female of plethoric or sanguine constitution is liable to the same affections, but in a higher degree; we have seen in such, mammary pain so acute as to cause agitation, sleeplessness, fever and delirium. Some have had 'engorgement,' or abscess of the breast."*

626. *Symptoms.*—The patient complains of a pricking, or of acute pain in one or both breasts, varying in intensity. In most cases it excites no constitutional sympathy; the patient is cool, and the pulse quiet, though the excess of pain may cause sleeplessness and loss of appetite. But in others the pulse becomes quick, the skin hot, with feverishness, and even delirium, when the agony is great. The pain may be constant, or recur in paroxysms, and even periodically, "Murat has given the case of a lady, in whom these pains in the breast re-appeared every month, lasting two or three days, at which time she was tormented with pains in the back threatening abortion, and requiring rest in bed."†

When the pain is purely nervous, it may continue a longer or shorter time (the nearer the commencement of gestation, the shorter its duration), and then cease, without any consequences; but when it occurs in plethoric females, as the result of congestion, it is not unlikely to terminate in abscess. In some cases towards the end of pregnancy there is a considerable secretion of milky fluid; but this is arrested when the attack assumes an inflammatory character.

627. *Diagnosis.*—1. From *mammary pain, the result of suppressed menstruation.* At an early period it may be impossible to establish this distinction: but after some time, the development of the other signs of pregnancy will decide the question.

2. From *phlegmon of the breast.* The nervous pain will be distinguished by the absence of local heat, tenderness, and fever.

628. *Treatment.*—Fomentations, or frictions with an anodyne liniment, will frequently afford relief; or a poultice may be applied.

Small doses of some narcotic may be given throughout the day, and a full dose at bed-time, if the patient do not rest well.

If there be much tension and enlargement, it will be advisable to apply leeches, or to take blood from the arm.

In these cases, small nauseating doses of tartar emetic will be found useful.

Should the congestion run on to the formation of abscess, leeches in the first instance, and subsequently emollient poultices, will be necessary; and when matter has formed, the abscess must be opened.

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* Capuron: Mal. des Femmes, p. 444.

† Imbert: Mal. des Femmes, vol. i. p. 346.

SECTION III.—DISORDERS ARISING FROM MECHANICAL PRESSURE OR DISTENSION.

CHAPTER I.

HERNIA.

629. As the uterus increases in size, it gradually but forcibly distends the abdominal parietes. In most cases they yield steadily and equably, so as to avoid all injury; but in other cases there is more resistance, and then some particular part will be over-distended, or it may actually give way. Thus we find occasionally, that the recti muscles are so far separated as to give the abdomen a sacculated appearance, interfering to a certain extent with their power during labor, and giving the abdomen an irregular appearance subsequent to delivery. In other cases, some of the fibres of these muscles may give way, and allow of the protrusion of the submuscular tissue, with a portion of intestine. After delivery, this will give rise to a tumor of varying size. Again, the linea alba may give way from over-distension, and allow a protrusion of intestine, or of the uterus, constituting what the French call an "eventration." The tumor formed is flat and very painful. Dr. Burns observes: "I have seen the linea alba give way, just below the umbilicus, so as to allow a portion of the uterus to project, forming thus a painful tumor of a flattened form, and too tender to admit of pressure. Leeches relieved the pain, probably by their effect on the cellular substance; and when the child was born, the tumor disappeared."*

If the separation of the linea alba be low down, the bladder may protrude.†

Even if the resistance of the abdominal parietes be less, so that no separation of the parts take place, yet the natural openings, the umbilical, inguinal, and crural rings, may be much enlarged, facilitating the escape of a portion of the intestine; and if we add the pressure exercised by the uterus upon the intestines, we shall at least have a sufficient explanation of the frequency of umbilical hernia. M. Imbert remarks: "I have already said that herniæ are frequent during pregnancy. The tension of the abdominal parietes separates the linea alba, and leaves between the recti muscles a space which is occupied but by the peritoneum and skin. Nothing is more frequent than umbilical hernia. Inguinal and crural hernia are less frequent, though not very rare. It is ordinarily the bladder which projects underneath the skin." And again, "I have already spoken of a lady, apparently quite healthy, of a sanguine and bilious temperament, with black hair, dark skin, and good muscular development, who experienced in her first confinement considerable relaxation of the abdominal parietes, an anteversion, a separation of the linea alba, forming a true eventration—two inguinal and two crural herniæ."

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* Midwifery, p. 277.

† Gardien: Traitè des Accouch. vol. ii. p. 102.

With some persons, this species of hernia occurs with every pregnancy, but at no other time: and when this is the case, they are very easily reduced.

The progressive enlargement of the gravid uterus will sometimes relieve a hernia which existed previous to pregnancy, by pushing before it the intestines; but this can only be the case where the hernia is recent. When it is old, and has formed adhesions, so far from relieving it, pregnancy is very likely to cause strangulation, and very serious consequences; as in the case related by Puzos, which proved fatal, and in which, after death, a small portion of the right ilium was found strangulated.*

630. *Causes.*—No doubt the facility with which herniæ are formed during pregnancy is attributable to the irregular yielding of the abdominal parietes, or to their laxity, and to the enlarged uterus protruding the intestines. Mauriceau has pointed out the influence of tight stays, which limit the abdominal cavity, by causing the contents of the chest to press down the liver and diaphragm.

631. *Diagnosis.*—In all cases of obstinate constipation and vomiting, it will be absolutely necessary to examine the abdomen, and the inguinal and crural regions most carefully; and this manual examination will generally detect any protrusion of intestine. From any other tumor it will be distinguished by its softness, varying size, reducibility, increase upon coughing, &c.

632. *Treatment.*—Irregular separation of any part of the abdominal parietes will be relieved (as far as relief is possible) by a bandage round the body, but which must be so managed as not to include between the separated parts, thus brought together, any portion of the intestine or bladder.

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* Traitè des Accouch. p. 81.

When hernia takes place, it should be reduced, if possible immediately, and its return prevented by a bandage.

If it be not reducible, we are recommended to apply a bandage; but in doing so, we must take care not to cause, or aid in producing, strangulation.

Should strangulation of the intestine take place, we must have recourse to the usual means, and, if necessary, to the operation for strangulated hernia.* If, however, the patient should be in actual labor, it may be advisable to hasten the delivery, in order to save the child, and afford a better chance to the mother.

Care must be taken during labor, to prevent, as far as possible, the further protrusion of the gut; and afterwards, the patient must wear a truss or bandage.

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* "Mrs. Clamp was delivered of a male child on the morning of the 20th of December. The author was sent for on the 21st, and found her suffering from a strangulated umbilical hernia. The operation was performed by Mr. Travers, about 24 hours after the protrusion; the gut was dark colored, apparently from venous congestion. The bowels were with difficulty affected after the operation, and the patient suffered much from pain in the abdomen. These symptoms yielded to bleeding and purging, and she appeared to be going on well. On the 26th the wound was dressed; some pus was discharged, and the omentum appeared sloughy. On the 28th the discharge was very offensive, and the sloughing of the omentum was considerable. On the 29th, a large quantity of feculent matter came away through the wound. A compress of lint, wetted with a solution of sulphate of zinc, was applied, and a large piece of sponge over it, to absorb the discharge, and pressure was made with adhesive plaster. The following day she passed two motions 'per anum,' and very little feculent matter came through the wound. The sloughy omentum was cut away. Nothing material occurred until Jan. 6th, when sickness and constipation took place, and everything she took passed through the wound. By the 8th, the constipation and sickness were removed, and from this time she continued to improve. On the 17th of February the wound was completely closed, and the natural passage restored."—*Case by Mr. Gore, Med. Chir. Trans.* vol xii. p. 570.

CHAPTER II.

HEMORRHOIDS, OR PILES.

633. The term hemorrhoids is used to characterize a number of small vascular tumors, which are formed at the termination of the larger intestine. When situated within the margin of the anus, they are called 'internal piles;' and when without, 'external piles.' Again, when there is no discharge from them, they are called 'blind piles' ("*hèmorrhöides non-fluentes*"); and when the contrary is the case, 'open or bleeding piles' ("*hèmorrhöides fluentes*"). If accompanied with excoriation, ulcers, &c., they are termed 'complicated piles.' They are a source of great suffering to females during pregnancy, and occur very frequently, if not during the first pregnancy, yet in subsequent ones. Women of a delicate, indolent, or lymphatic habit are very liable to them, especially if the bowels be constipated.

634. *Causes.*—As to the proximate cause of piles there is great difference of opinion, some considering them to be varicose veins: others, dilated arteries; a third class, both the one and the other; and a fourth, neither the one nor the other. The French authorities regard them as spongy tumors, developed during pregnancy or otherwise, from constitutional causes.

Among the most evident exciting causes is the pressure of the enlarged uterus, either when it completely fills the pelvis, or at a much later period; as we find that the time when they are most apt to occur is during the fourth or two latter months. Dr. Burns attributes piles chiefly to "a sluggish state of the intestinal canal, communicating a similar torpor to the hemorrhoidal veins," and certainly, when there is a large accumulation of fæcal matter, hemorrhoids are more frequent and severe. Drastic purgatives are also accused of causing the disease. It is probable that the unusual amount of blood distributed to the pelvic contents may favor the formation of these tumors, aided by the looseness of the texture in which the vessels of the rectum are imbedded.

635. *Symptoms.*—The patient at first experiences an unpleasant sensation of weight and itching at the anus; and an examination discovers these tumors around its margin, if they be external piles. If internal, they will only be detected by their descent when the bowels are evacuated, or by an internal examination.

Much greater distress is caused when the piles become congested or inflamed, whether they be external or internal. The patient suffers great pain and throbbing in the part, with a sense of weight and bearing down; the pulse may become quickened, the face flushed, the skin hot, &c. There is head-ache, thirst, and a dry tongue, &c. The pain is greatly aggravated by sitting or walking, and is almost intolerable when the bowels are moved. Tenesmus is generally present, and a glairy or whitish fluid is discharged. In many cases there is greater or less discharge of blood, which affords some relief. The excessive irritation may cause spasmodic contraction of the sphincter, and even of the rectum, adding greatly to the distress.

If the piles be internal, they will be forced down during the efforts at stool, and should they not be carefully returned, they will be caught by the sphincter, retained and strangulated. The state is one of extreme anguish, and if not relieved, gangrene of the tumor may ensue, and even the death of the patient. If the inflammation be not subdued, the tumors may ulcerate, and prove extremely troublesome, on account of the irritation and loss of blood. The severity of the attack may he subdued, but the disease is rarely curable during pregnancy, and even after delivery it is very apt to recur.

When the disease becomes chronic, the patient is very liable to derangement of the stomach and bowels.

The consequences of a very severe attack are, however, sometimes much more serious; the ulceration may persist in spite of treatment, or become fistulous. The loss of blood may be sufficient to exhaust the patient, and to destroy the fœtus, or abortion may be caused by the violent straining.

These attacks, I have said, are most frequent about the middle and end of pregnancy, but they may occur at any period. Some women are attacked with them immediately after delivery, owing probably to the pressure exercised during labor. In some cases they recur periodically, as though vicarious of the menses.

636. *Treatment.*—Whether the piles be external or internal, the first thing to be done is to free the bowels effectually, by some mild medicine, after which an anodyne enema may be given, and leeches applied to the piles, or around the anus. This will relieve the throbbing pain, and procure some hours rest for the patient. The leeches may be repeated if necessary; and to encourage the bleeding, the patient may sit over hot water. Injections of warm water or gruel may be used subsequently. The diet must be bland, and all stimulants avoided. If the fever be considerable, it may be necessary to abstract blood from the arm.

When the piles are external, great relief is sometimes afforded by warm anodyne lotions; or by the ung. plumbi.

If the internal piles have been forced down and strangulated, we must return them immediately, and then have recourse to laxatives and leeches; if it be impossible to reduce them, on account of the contraction of the sphincter, the tumors must be scarified to prevent gangrene.

Preparations of sulphur, alone or in combination with cream of tartar, or electuary of senna, are found very useful. When the inflammation has subsided, we may have recourse to astringent applications with benefit, such as the ung. gallæ, decoction of oak bark, green tea, &c. The balsams have also been highly recommended; and recently pix nigra (in five-grain doses) has been stated to have been successfully used, after other remedies had failed.

Should the bleeding be excessive, it may be restrained by pressure; this is easily done when the piles are external; but when internal, we must have recourse to the "*tampon*" of Petit, or some similar contrivance.

Some writers recommend that the inflamed pile (when external) should be opened;* others deprecate this operation very strongly. There will undoubtedly be danger of inflammation, which may interfere with the progress of gestation.

When the piles become chronic, they may be removed by ligature or the knife: but it will scarcely be advisable to attempt this until after delivery.

CHAPTER III.

SPASM OF THE URETERS. INCONTINENCE OF URINE.

637. I. SPASM OF THE URETERS.—Pregnant females are occasionally subject to accessions of severe pain in the course of the ureters, leading up to the kidney; and this Dr. Burns attributes to spasm of the ureters. It is probable that it arises from pressure upon these canals, as they pass into the pelvis. The same effect may possibly arise sometimes from a dyspeptic state of the stomach. The attack is purely local, consisting of severe and sometimes intermitting pain, with distressing strangury, which may cause abortion if not relieved.

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* "A very successful, though painful practice, in those piles which appear after delivery, is that of laying them open, and afterwards applying a large warm poultice, by which means they disappear in two or three days. When piles become indolent and insensible to local applications, we have been advised to get rid of them, either by ligature or the knife; and the latter, as it is productive of less irritation, should be preferred: we must be prepared, however, against hemorrhage. Neither operation should, if possible, be performed in the gravid state, lest premature uterine action result."—*Campbell's Midwifery*, p. 516.

638. *Treatment.*—The bowels should be well freed by purgatives or enemata, and afterwards a large opiate administered.

Counter-irritation to the loins may occasionally afford relief. The state of the stomach must be attended to, and the diet regulated. Change of position will sometimes relieve the pain by removing the pressure.

639. II. INCONTINENCE OF URINE.—This very distressing complaint may occur at any period of pregnancy, though from different causes. During the early months it generally arises from a morbid irritability of the neck of the bladder, or of the entire organ, in consequence of its sympathy with the uterus. The patient is tormented with a constant and painful desire to make water; and if this desire be not instantly gratified it is discharged involuntarily. The irritation is sometimes extended to the vulva, and is greatly aggravated by the passage of the urine; the patient suffers intensely, especially in the night, from scalding, itching, and pain of the external parts. This state of the bladder is sometimes productive of a slight irritation about the symphysis of the pubis, rendering the articulation less firm, and more easily separated. In such circumstances, when the pubis is tender, bloodletting and rest are the two principal remedies.*

It may also arise from pressure of the uterus upon the neck of the bladder, giving rise to a partial and temporary paralysis of it.

At a later period the incontinence is owing to the pressure of the gravid uterus on the fundus and body of the bladder, diminishing its capacity, and rendering the evacuation, voluntary or involuntary, of its contents, frequent. This pressure, however, appears to have the further effect of inducing a kind of paralysis, so that it may be some time after delivery before its functions are perfectly restored. The incontinence is much increased if the patient suffer at the same time from cough: with each succession the urine escapes. It is hardly necessary to state that the condition of the patient is very distressing; the constant discharge of urine excoriates, more or less, the vulva and upper parts of the thighs, and the patient cannot move without pain. The urinous odour is also extremely offensive.

640. *Treatment.*—During the early months, our aim must be to soothe the irritation. If this be great, venæsection or leeches to the lower part of the abdomen may be necessary. In many cases, warm fomentations will be all the local treatment required.

Moderate doses of hyosciamus or opium, with copious mucilaginous drinks, will be found useful. The bowels should be kept free.

When it arises from "atony of the neck of the bladder," Capuron advises "tonic and astringent injections, such as the mineral waters of Barèges, Balarue, Cauterets, &c., or a solution of sulphate of alum."

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* Burns' Midwifery, p. 261.

At a later period, when the complaint arises from pressure, we can do but little. Cold local sponging will in some cases strengthen the retentive powers of the bladder.

The patient in all cases should anticipate the involuntary discharge of urine, by its frequent evacuation.

In order to prevent the distressing excoriation of the vulva, the patient should wear a napkin constantly, and change it frequently.

When excoriation does occur, it may be relieved by warm mucilaginous or gelatinous fomentations, twice or thrice a day, and by the subsequent application of lead lotion, black wash, or absorbent powder.

Gentle aperient medicines or glysters should be occasionally exhibited.

CHAPTER IV.

DYSURIA. RETENTION OF URINE.

641. An opposite condition of the bladder to that just described is not unfrequently observed in pregnant women. The degree may vary; it may only amount to a difficulty in voiding urine, or it may be impossible to evacuate the bladder. It may occur either during the early or latter months of pregnancy.

642. *Causes.*—At an early period it may be owing to irritation of the neck of the bladder, giving rise to spasmodic constriction, or it may be owing to pressure upon the neck of the bladder, when the uterus fills the cavity of the pelvis.* At a later period, it may result from pressure of the lower part of the uterus on the neck of the bladder, particularly if the belly be pendulous; and it has been regarded as a proof that the presentation is natural.† It may also result from paralysis of the bladder from pressure, or from over-distension, in consequence of the diminished sensibility of the bladder. An attack of hemorrhoids, a calculus in the bladder, or a tumor of the urethra may also give rise to dysuria, or retention of urine. Displacements of the uterus are all attended, more or less, with disturbance of the functions of this organ.

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* Campbell's Midwifery, p. 528.

† Denman's Midwifery, p. 160.

643. *Symptoms.*—It is scarcely necessary to describe the symptoms. The patient finds the evacuation of the bladder difficult and painful, or altogether impossible. In the latter case, the bladder becomes distended, and presses backwards the womb, which may become retroverted in the early months, if the patient make violent efforts to empty the bladder, or suddenly exert her strength in any way. If relief be not afforded, the pain and tension of the bladder increase to agony, the abdomen becomes tender, and ultimately the parietes of the bladder may give way and peritonitis results.

Should retention occur at the commencement of labor, or be continued up to that period, the consequences may be very serious. The bladder may be forced down into the cavity of the pelvis by the descent of the child's head; and if it be not ruptured—which is very likely—it will receive such a serious compression and contusion, as will excite inflammation, sloughing, and perforation subsequently. I have met with more than one such case, in dispensary practice, from the carelessness of midwives.

644. *Diagnosis.*—It is of the greatest importance when retention occurs in the early months, that a vaginal examination should be made immediately, in order that any displacement of the uterus may be detected, and remedied as soon as possible.

We may also in this manner detect the presence of calculus in the bladder, or urethral tumors; and so distinguish retention depending upon organic derangement, from functional incapacity.

645. *Treatment.*—Dysuria or strangury, arising from irritation, may require bleeding or leeches, and will be benefited by anodynes, mucilaginous drinks, and warm fomentations. If there be piles, leeches must be applied to them.

Retension arising from diminished sensibility and over-distension requires but little medicine. The patient should regularly void urine at short intervals, and apply cold to the vulva, morning and evening. Soda and uva ursi have been recommended.

If it depend upon compression, little can be done beyond changing the position, so as to avoid pressure anteriorly as much as possible.

Whatever be the cause, if the retention be complete, the catheter must be used, and repeated as frequently as may be necessary.

If the belly be pendulous, a bandage may be applied, so as to raise the uterus, and so diminish the pressure upon the neck of the bladder.

CHAPTER V.

CRAMPS, IRREGULAR PAINS, &c.

646. CRAMPS, spasms, or irregular pains in different parts of the lower half of the body, are a source of frequent and great annoyance to pregnant females. It does not appear that temperament has any thing to say to their production. They are more frequent about the fourth or fifth month, and at the latter end of gestation, than at any other time.

647. *Causes.*—These pains have generally a mechanical origin, and depend upon the pressure of the gravid uterus upon the nerves, and thus we see why they should be most frequent about the fourth month, when the uterus fills the cavity of the pelvis; or during the ninth, when it is incumbent upon the brim.*

In some cases they are attributable to the distension of muscular fibres by the enlarged uterus, or to the stretching of the ligaments of the uterus; and this is said to be the case especially with women who carry twins.

No doubt they may be excited or increased by deranged digestion, constipation, over-fatigue, mental irritation, &c.

648. *Symptoms.*—There are various situations in which the cramp or pain is felt, and the effects vary accordingly.

1. *In the abdomen.* The patient may complain of pain or stitches in one side or the other—generally the left, between the false ribs and the crest of the ilium, or along the line of the superior insertion of the abdominal muscles. Again, the inferior insertions may be simi-

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* "Spasms of the lower extremities have their origin in the same general condition of the nervous system, to which several affections have already been referred. In most cases they commence in the course of the anterior crural nerve, whence they are suddenly transferred into the calf of one or both legs, and thence into the sole of either foot, to the great annoyance of the patient. The pressure of the uterus upon the brim of the pelvis, torpor of the bowels, over fatigue, and mental irritation, are the most obvious exciting causes. Spasmodic affections are not confined to the sacral extremities. From the time the uterus has ascended over the brim, those sensations may be alternately situated in the hollow between the false ribs and crest of the ilium, in the *venter* ilii, and along the brim towards either crural notch: when the womb is in the pelvis, even between the third and fourth month, frequently a cutting or tearing sensation is complained of in the tract of the obturative nerve."—*Campbell's Midwifery*, p. 504.

larly affected; in both cases it appears to be owing to over-distension, which throws some of the muscular fibres into spasmodic action. The pain may be very severe, effectually preventing the patient's taking exercise. It is influenced by the state of the stomach, more than cramp in any other situation, and is often combined with heart-burn or water-brash; but is easily distinguished from pain in an internal organ, by its spasmodic character. I have seen this kind of cramp fix itself about the symphysis pubis, and extend down to the labia pudendi, probably depending upon pressure, congestion, or dragging of the round ligament.

2. *In the back.* The lumbar muscles are sometimes the seat of cramp; and when it is severe, it greatly impedes the movements of the patient, especially the assumption of the upright position. Occasionally the distress is extended from the crest of the ilium to the sacrum, affecting the origin of the muscles. It may be the result of distension, or of pressure on the nerves. In some few cases, I have known the pain limited to the lower part of the sacrum, and to the coccygeal region.

3. *In the inferior extremities.* It is seldom that both legs are affected together, and it generally happens that the pressure is greatest on the leg of that side to which the patient habitually inclines. The pain may be seated on the anterior and inner side of the thigh, taking the course of the crural nerve; or it may run along the sciatic nerve, down to the calf of the leg, and even to the heel and sole of the foot. I have recently had under my care a patient, who in the ninth month of pregnancy was attacked by acute pain along the ball of each foot. She could neither stand nor walk from the pain, nor even bear to have the feet depending, and yet there was neither swelling, nor redness, nor tenderness when I pressed the foot. The attack lasted about a fortnight. Another patient suffered from severe pain and altered sensibility in the end of the fingers, without swelling, or pain on pressure.

These cramps may depend upon the pressure of the enlarging uterus, whilst it fills the cavity of the pelvis; or upon its downward pressure during the latter months. When the pelvis is sufficiently spacious to allow the head of the fœtus (covered by the cervix uteri) to descend into the pelvis, the pressure being great, the pain is unusually severe. The pains are often very acute, and attended sometimes with muscular contraction. They generally come on suddenly, and often render the patient's footing very insecure. This is particularly the case when they attack during walking; and in fact they, and not the change in the centre of gravity, are the principal cause of the severe falls which happen to pregnant females. The attack may occur during the night as well as the day, especially soon after lying down. We sometimes see a minor degree of this affection when the limb is what is commonly called—asleep: the patient is greatly annoyed by numbness, or a sensation of pricking, as of pins or needles;

and this may alternate with the cramp. "No complaint happens more frequently to pregnant women than pain in the hips, with numbness of the inferior extremities. This seems to be occasioned by the outward pressure made by the enlarged uterus upon the ischiatic nerves, and those which pass through the perforations on the anterior part of the sacrum." * * * Cramp "is a very pertinacious symptom, and often exceedingly troublesome, especially in the night, but being void of danger, has too little attention paid to it."* It is very rare that any form or degree of cramp is accompanied with much constitutional sympathy, unless indeed the patient should be long deprived of rest.

649. *Treatment.*—As this affection depends chiefly upon pressure, over which we have very little or no control, it is evident that the treatment can only be palliative, and must often be unsuccessful.

The condition of the stomach and bowels must be carefully attended to in all cases. In the cases I have mentioned, I found the greatest benefit from a combination of an alkali with a bitter tonic. I ordered infusion of gentian six ounces, tincture of orange-peel two drachms, and two drachms of Brandish's alkaline solution: a tablespoonful to be taken three times a-day. The bowels to be kept free. In very severe cases, blood-letting has been tried, and often with success; but ordinarily it is unnecessary.

An anodyne draught of some kind will be necessary. Locally, we may use some counter-irritation. I have found friction with spirit of turpentine very useful. Sometimes great benefit will be derived from an opium or belladonna plaster.

But all these remedies will fail, unless we can place the patient at rest in a position which will, in some degree at least, take off the pressure; and if we can do this, very active remedies will be needless.

CHAPTER VI.

VARICOSE VEINS.

650. A dilatation of the veins, with a consequent thickening of their coats, as a consequence of the arrest of the ascending column of blood, is a very frequent accompaniment of pregnancy—though neither a dangerous nor very troublesome one. Women of a lax and plethoric habit appear peculiarly obnoxious to it.

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* Denman's Midwifery, p. 161.

Varicose veins vary as to situation. They are perhaps most frequent on the leg, below the knee: but if the cause be repeated, the veins of the thigh are speedily involved. More rarely, I have seen the veins of the labia majora, the vagina, and even the os uteri rendered varicose from the same cause.*

651. *Causes.*—There can be no doubt that the principal, if not the sole cause, is the pressure of the gravid uterus during the latter half of gestation.† It is uncommon for the effect to be produced during a first pregnancy, but it is very frequent afterwards, increasing in amount with each pregnancy.‡

The first time varicose veins result from this cause, they do not appear till towards the end of gestation; but when once the veins have acquired a certain degree of dilatation, a very slight increase in the bulk of the uterus suffices to distend them. I had a patient in whom a distended state of the veins of the leg was the first symptom of conception in several pregnancies. When the womb inclines more to one side of the body than to the other, one limb will be affected, whilst the other retains its natural condition.

A constipated state of the bowels will of course aggravate the disorder, and perhaps may have a share in the production of that form which I have mentioned as seated in the vagina. Though varicose veins be caused by pregnancy, they are, I need scarcely say, not peculiar to it alone, ovarian or uterine disease may equally produce them.

652. *Symptoms.*—The symptoms are not remarkable; the patient usually complains of stiffness and heaviness of the limb, with difficulty of walking, but there is seldom any pain. When the veins of the vulva or vagina are affected, there is a fulness of weight, and sense of bearing down. An examination of the limb will at once point out the cause of these symptoms, and on making a vaginal examination, we shall find the passage somewhat narrowed by the swollen, unequal lining membrane. A similar sensation will be communicated to the finger, when the cervix uteri is affected.

It sometimes, though rarely, happens, that when the distension is very great, the coats of the vessels give way, and blood is effused.§ This is much more likely to occur with the veins of the cervix uteri during labor; and sometimes very unpleasant results have followed.

It has been supposed that the sanguineous tumor of the labium, of which I shall speak hereafter, is the result of rupture of these distended veins, and it is quite possible that it may be in some cases; but the fact has not been established, nor can it be very frequent, if we remember how many cases we see of varicose veins of the labia, without rupture.

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* Gardien: Traité d'Accouch. vol ii. p. 92.

† Capuron: Mal. des Femmes, p. 417.

‡ Campbell's Midwifery, p. 513

§ There is a fatal case recorded by Dr. Cramer, of a rupture of a vaginal varix in a pregnant woman during sexual intercourse, in the Medicinisch. Zeitung, of March 11, 1843.—*Dublin Journal*, vol. xvii. p. 504.

After delivery, the veins gradually return to nearly their natural size, unless the patient have had many children in quick succession; in which case the coats of the veins are so hypertrophied, that the disease becomes permanent, at least for many years.

If the patient stand or walk too much, portions of these veins are apt to become inflamed, causing much pain, and proving rather difficult to manage; and I have remarked in several patients who suffered from varicose veins during pregnancy, a great liability to inflammation of a portion of them after delivery.

653. *Treatment.*—As the disease results from a mechanical cause which we cannot remove, it is evident that we cannot hope to cure it until after delivery. All we can do is to support the limb, and diminish the venous distension by firm bandaging, which should be applied in the morning, as then the veins are least distended. Firm pressure will command the hemorrhage in most cases, when a rupture of the veins takes place.

Rest in the recumbent posture will also be needful; and if one limb only be affected, the patient should recline on the opposite side.

The bowels must be carefully regulated.

Various methods have been proposed for the radical cure of the disease; but as none of them ought to be practised during pregnancy, they do not require description here.

CHAPTER VII.

ŒDEMA. ANASARCA.

654. DURING the latter months of gestation we frequently find patients complaining of a swelling of the lower extremities, increasing towards evening, and occasioning a certain amount of inconvenience. Females of a leucophlegmatic temperament are the most obnoxious to the disorder, although the robust and plethoric do not always escape. The extent of the effusion varies much; it may be confined to the feet and legs, or it may involve the thighs, vulva, and hips. In a few cases, the anasarca is still more general, and we find the upper part of the body, the hands, and the face, œdematous.*

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* Imbert: Mal. des. Femmes, vol. i. p. 421.

655. *Causes.*—In a large class of cases, the œdema is caused by the pressure of the gravid uterus simply, or, according to M. Imbert, with the addition of an affection of the nervous system. In a second class it has been said to depend upon an atonic condition of the constitution. In a third class it appears of a more active character, depending perhaps upon plethora, or that affection of the cellular tissue which ends in great effusion. The symptoms of the latter are very different from the former.

The amount of distension in many cases appears to be in proportion to the size of the uterus; thus, in case of twins or triplets, it has frequently been found excessive.

656. *Symptoms.*—When the effusion is passive, or the result of pressure, there are none but mechanical symptoms. The limb is swollen, of a semi-transparent, pearly appearance. It feels heavy, and the patient cannot walk as well as usual. The secretion of urine is generally diminished. These inconveniences are much aggravated if the swelling extend to the thighs; the patient may not be able to approximate them, and may find it as distressing to sit as to stand or walk.

But little additional distress is occasioned during gestation by the swelling of the labia; but if very large, they may be a serious impediment to the exit of the child. Change of posture has great effect upon the œdema; in the morning the swelling is but slightly perceptible, but during the day it increases, and towards night the part arrives at the maximum of distension. After delivery, the effusion disappears immediately, without any unpleasant result.

This is the ordinary course of the disorder; but it may be unpleasantly varied by an attack of erysipelas of the distended skin, or phlegmon of the subcutaneous cellular tissue. The former attack may run the usual course, and subside; or the inflammation may extend to the cellular tissue, and end in abscess. The skin covering the abscess may go through the usual process of absorption to give exit to the matter; or it may become gangrenous.

When the disease depends upon a dropsical diathesis, it is much more general, affecting the superior as well as the inferior parts of the body, and accompanied with heat, tenderness, and tension of the parts. The pulse is quickened, and there is more or less fever. This is a much more serious form of disease, and should be carefully distinguished from the passive variety. I have already mentioned that this species is frequently followed by convulsions, either before or during labor, and is therefore a cause of great anxiety, and requires prompt treatment: moreover, it does not necessarily disappear after delivery. It may also be complicated with effusion into the serous cavities, and involve, in consequence, the life of the patient.

657. *Diagnosis.*—There are two points of diagnosis. The first is to ascertain that the effusion arises from, or is connected with pregnancy, and not from disease; and the second is to distinguish be-

tween the passive and active forms of œdema. The presence or absence of the signs of pregnancy will solve the first question, and the second will be decided by the presence or absence of constitutional distress.

658. *Prognosis.*—As long as the disease is passive, and not excessive, the prognosis is favorable; but it will be modified if erysipelas or phlegmon occur, according to the extent of this complication.

When the dropsy is general and acute, the prognosis is always grave, and it may be altogether unfavorable if the attack be violent.

659. *Treatment.*—Rest in the recumbent posture will be sufficient for moderate degrees of the œdema from pressure; but if more excessive, we must try mild saline purgatives, with diuretics; though it must be confessed that they often fail.

In cases of extreme distension, where we dread the skin giving way, it will be better to evacuate the fluid by small punctures with the lancet, or a needle, in the leg or foot.

The fluid must also be evacuated in those cases where the size of the labia offers an impediment to the completion of labor; but this is better done by repeated blisters than by punctures.

When erysipelas attacks the œdematous limb, we are recommended to make free incisions into the inflamed part, in addition to the ordinary modes of treatment. If an abscess form, it will undoubtedly be advisable to afford an exit to the matter.

When the dropsy is general, and accompanied by fever, the treatment must be much more active, and of an antiphlogistic character.

Blood should be taken from the arm, and an active purgative administered. Tartar emetic in small doses will also be found useful.

These remedies are to be repeated or modified, according to the violence or continuance of the attack; and in general we shall succeed in subduing it, if we are called sufficiently early.

CHAPTER VII.

ASCITES. HYDROTHORAX.

660. In some females we find the dropsical diathesis so strongly marked, that the effusion is not confined to the cellular tissue, but occupies one or other of the great cavities of the body. These cases are almost always examples of the acute or inflammatory dropsy. excepting when caused by organic disease (as of the heart or liver) preceding or accompanying pregnancy. The attack seldom occurs till the latter months of gestation.

661. *Symptoms.*—The quick pulse, feverishness, and pain, which I have already described as accompanying acute dropsy, may be present, with an unusual enlargement of the abdomen for the period of pregnancy. There is very little tenderness of the abdomen; but fluctuation is very evident. The stomach is sometimes disordered, the skin dry, and the urine scanty. The audible signs of pregnancy are more faint and distant than usual, and the motions of the child are scarcely perceptible externally. The patient finds great difficulty in moving about because of her increased bulk, and when she lies down she generally suffers from dyspnœa and sleeplessness, or if she do sleep, from dreams. Ascites is generally accompanied or preceded by some œdema of the feet and ancles; but it may form a part of that general dropsy to which I have before referred. In many of these cases, labor comes on prematurely, and the child is lost. In others, the ascites disappear before the full time, and the labor terminates naturally and successfully.

Lastly, in some the irritation and fever subsides, but the dropsy remains. At the time of labor, the accumulation of fluid in the peritoneal sac will lengthen the labor, by depriving the patient, to a great extent, of the assistance of the abdominal muscles; but there is seldom any danger in the delay. If the effusion disappear after labor, the patient will do well; but this is not always the case, and then the convalescence may be tedious or imperfect; or if the constitution be much injured, she may die soon after delivery. The following case, which recently occurred, will show the serious nature of this complication. Mrs. ——, about six months pregnant of her fourth child, exhibited a general dropsical diathesis, with considerable effusion into the abdomen, but without local pain or disease. The pulse was weak, ranged from 120 to 140, respiration was hurried and rather labored, but no abnormal sound could be heard in the chest, and it was clear on percussion. The sounds of the heart were natural. She complained of clouded vision, and had occasional starts of faintness. The weakness and restlessness were excessive. The face was puffed, and the hands somewhat swollen. From the weakness of the pulse, and the general exhaustion, any depletory measures were out of the question; and by Dr. Johnson's advice I commenced a course of diuretics, but which had not time to be effective, for, on the fourth day from the time I first saw her, premature labor came on, and she was delivered of a dead child, after a short and easy labor, without hemorrhage. During labor she became faint, and immediately afterwards fell into a state of collapse, from which she never rallied.

The child's head, face, abdomen, and extremities were distended with fluid, and it had evidently been some time dead.

It is difficult to say what effect the ascites has upon the child, or how far it may inherit the diathesis. In some cases it has been born dead, with effusion into the abdomen: but in others it has been strong and healthy.

The disappearance of the fluid after delivery is generally owing to active absorption, or to suspended secretion; but occasionally it has been known to escape through the fallopian tubes into the natural passages. "Although the abdominal water of ascites, and the liquor amnii, are in distinct cavities, yet it has happened in some rare instances, that the water in the cavity of the abdomen has made its escape through the uterus. In these cases the water insinuates itself into the fallopian tubes, the fimbriated terminations of those tubes opening into the pelvis, and the other ends into the cavity of the uterus. The hydropic water is supposed to insinuate itself into the fallopian tube after the expulsion of the fœtus. It has also been supposed that something more than mechanical action must be the cause of this, for it has sometimes been observed, when there has been a brisk discharge that a sudden cessation of it has taken place. It might therefore be conclnded, that as long as the tubes are pervious, agreeably to the idea of a mechanical insinuation of the water into them, or as long as they are disposed to act as living tubes, so as to perform the function of absorption, agreeably to the other idea, parturition might be looked to as a natural cure for dropsy of the abdomen. But such hopes are not likely often to be realised. The fallopian tubes may, indeed, sometimes act as absorbents, and take up all the accumulated fluid in the manner stated. The author has known one woman who had several of these accumulations pass through the uterus, or at least discharged by the way of the genital passage. After that result, and by the use of warm medicines and chalybeates, she entirely recovered her health. Some time subsequently she became pregnant, and afterwards did quite well. Upon the whole, therefore, our answer should be, that sometimes the disease is cured by delivery, and sometimes not—so as not much to elevate, nor on the other hand greatly to depress, the hopes of the patient."*

Some few cases are on record, and I have also seen such, when the pleura or arachnoid was apparently the seat of the effusion, give rise to dyspnœa, and sense of smothering, or to sleeplessness or stupor. "A woman of vigorous constitution enough was seized during pregnancy with general effusion; parturition however came on, and the complaint ceased. Becoming pregnant again, she was a second time seized with effusion, which took place in the legs, the chest, and the abdomen. A very eminent practitioner was called in consultation with myself in this case: nothing very active was attempted: we did not see our way clearly to blood-letting; the water continued to accumulate, and the woman ultimately died, apparently from hydrothorax." "Some time afterwards I was called to another patient, also of a constitution tolerably sound; in this case the effusion had taken place into the legs, the abdomen, and probably the head; for at the time when I saw her, she was insensible, and had occasionally convulsive fits. This woman was very freely bled, to the amount of 40 or 50 oz. at least, in the course of two or three hours; premature delivery was intended, but parturition came on of itself in the course of the four-and-twenty hours; the next day I found the patient a great deal better; the day afterwards she was so much improved that she appeared to be in a state of speedy convalescence; unfortunately, however, she was seized with the puerperal fever, a complaint very prevalent and very fatal at the time, and though she was in the hands of a very excellent practitioner, she sunk under the disease."*

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* Davis's Obstetric Medicine, vol. ii. p. 878.

These cases, if not actively treated, frequently prove fatal.

662. *Diagnosis.*—The first question for our solution will probably be, whether the patient be *pregnant or dropsical;* and secondly, *if dropsical, whether she be pregnant also.* Mistakes have been made on both of these points, as the records of midwifery prove. Our main reliance is upon a careful investigation into the signs of pregnancy; and if they be present, a due estimation of the modifications in them which are caused by ascites.† These rules have been so well laid down by writers on legal medicine, and especially by Drs. Kennedy and Montgomery, that I cannot do better than refer to their works.

It will be found very difficult to distinguish ascites, during pregnancy, from *dropsy of the amnion.* But sometimes, if the abdomen be not tense, the smaller uterine tumor can be distinguished in the midst of the dropsical effusion, when the patient is lying down.

663. *Prognosis.*—From what has been said, it will be evident that our prognosis should be extremely guarded. The patient may recover under favorable circumstances; but if the irritation be great, or the constitution injured, she may sink after delivery, whether she go to the full time or not. "The *prognosis* should be guarded, more especially when the disease appears in more than one pregnancy; for after delivery, in such cases, it makes rapid strides, and proves fatal. One patient, of a delicate habit of body, in my own practice, had ascites in two successive pregnancies. In the first it was with difficulty removed subsequent to delivery; but after the second, the patient, though left in the most favorable condition, died in twelve hours.

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* Blundell's Obstetricy, p. 187.

† "The late Dr. Haighton used to mention a case to which he had been called in consultation with a surgeon of the first eminence, who was about to perform the operation of paracentesis, prior to which the doctor requested to be allowed to make an examination per vaginam. He found the os uteri a little open, and the membranes protruding; on rupturing the bag, a very large quantity of liquor amnii was discharged; presently afterwards followed a shrivelled fœtus, and the ascitic symptoms, as might have been expected, instantly disappeared."—*Denman's Midwifery*, p. 166.

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* [illegible] ii. p. 878.

Scarcely two pounds of water were found in the abdomen, nor any morbid appearance to account for death. Sometimes premature labor is induced by the combined irritation of the dropsy and pregnancy, and the patient gradually sinks after delivery. I once witnessed a case of this kind, where the disease had been brought on by chronic inflammation of the liver. Another example happened in this city, where a similar state of the liver and ascites had been induced by a frequent indulgence in stimuli; and the patient died undelivered, under the most pusillanimous treatment. Such cases are exceedingly intractable.*

664. *Treatment.*—As long as the effusion is very moderate, little need be done beyond keeping the bowels free; but if it occasion distress, and there be much general irritation, bloodletting may be employed, followed by diuretics and saline purgatives, so as to afford some relief, and enable the patient to complete the full term of gestation. The posture must be so regulated as to afford the greatest ease. The diet should consist chiefly of solid food, of a nutritious quality.

If the effusion, either into abdomen or chest, be extreme, and not diminished by the remedies employed, it may be necessary to decide between abdominal paracentesis,† and the induction of premature labor.‡ If the child be strong and lively, it may be desirable, for its sake, in some cases, that the mother should incur the risk of the former operation; but in the majority of cases I should unhesitatingly prefer the latter, especially at or after the seventh month, as avoiding all risk to the mother, and perhaps saving the life of the child. Moreover, paracentesis is not unfrequently followed by premature labor: the mother thus incurring all the risk, without any benefit.

It has also this advantage, that should the practitioner have been deceived as to the abdominal effusion, the mother's life is not compromised by the operation, as in paracentesis.

If we perform the operation of tapping, great care will be necessary to avoid wounding the uterus, and to prevent subsequent peritonitis. For the mode of operating, I refer the reader to Cooper's Surgical Dictionary.

Little can be done to afford relief where the ascites is owing to organic disease; but it may be necessary to tap the abdomen, or to induce premature labor, if the effusion compromise the mother's safety.

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* Campbell's Midwifery, p. 547.

† Burns' Midwifery, p. 269.

‡ Blundell's Obstetricy, p. 186.

BOOK III.

DISEASES OF CHILD-BED.

It is, I fear, impossible to make any scientific arrangement of this class of diseases, involving so many tissues, and occurring so irregularly. In consequence of this difficulty, I have determined to describe those diseases and accidents first, which affect the uterine system; then, those which seem to be propagated from it; next, certain febrile affections; and disorders of the breasts; and lastly, certain diseases of the nervous and vascular systems.

But, in order that the limits of disease may be more perfectly defined, I have prefixed a notice of the ordinary phenomena of convalescence, with some variations therefrom, not involving organic disease, and some directions for the management of pregnant females.

CHAPTER I.

ON CONVALESCENCE AFTER PARTURITION.

665. In considering this subject, we shall assume that the patient, previous to labor, was strong and healthy; that the labor had been natural (under twenty-four hours), with the first and second stages bearing their usual proportion (2 or 3 to 1) to each other, and neither accompanied nor followed by any accidental complication, as convulsions, hemorrhage, &c.

If we examine the condition of a patient a few hours after

667. The condition of the cavity of the uterus is of great interest. When examined a day or two after delivery, the lining membrane appears loose and corrugated, somewhat softened, and covered more or less by patches of the decidua. The part to which the placenta was attached is raised above the level of the surrounding parts; its surface is unequal, resembling in this respect a granulating ulcer; its size is wonderfully reduced. The whole internal surface is of a dark ash color, while the discharge upon it may be greenish or brownish, giving the appearance of a morbid condition of the parts—indeed, I have known it pronounced to be gangrene. The structure of the uterus, if cut into, is found to be less dense than natural, and the fibres more distinct; the sinuses are still very evident, and at the placental insertion they are filled with clots of blood. The os and cervix uteri are covered with ecchymoses, as though they had been severely bruised; and sometimes small lacerations may be observed in the margin. The orifice remains open for some days, but gradually closes. According to Dr. Heschl the placental spot undergoes a fatty transformation, similar to the other parts, and a formation of a new uterine substance.

According to M. Cruveilhier, Fergusson, and others, the mucous membrane is thrown off at delivery, and the muscular fibres left bare; and Dr. Heschl describes its reformation, but he admits that the matter is not very clear to himself. A few days after delivery the internal surface of the uterus appears covered with a red-coloured, soft, pap-like, flaky substance, consisting of pavement and cylindrical epithelium, and young cellular substance, in which vessels become evident the third week, and the glands afterwards. Now, I would just observe, that if the mucous membrane is thus exfoliated after labor, it is the only example in the human body of a mucous membrane undergoing the process *physiologically*, and, from the very few observations I have been able to make, I feel inclined to agree with Dr. M. Duncan,* that no such exfoliation takes place, except, perhaps, at the insertion of the placenta, and of this I do not feel quite sure. Dr. D. examined several cases most carefully, and in none was the uterus denuded of mucous membrane. Of one where death had taken place on the fourth day after delivery, he thus speaks: "The whole inner surface of the organ was manifestly covered by a mucous membrane; lacerated at the site of the placental insertion, a surface of between three and four inches in diameter, a number of clots were entangled in the venous openings. Elsewhere the mucous membrane was distinct. It was covered by the lochial secretion. On scraping the surface, the lochia and epithelium were easily removed, laying bare the fibrous structures of the mucous membrane beneath."

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* Dr. J. M. Duncan on the Internal Surface of the Human Uterus after Delivery—*British and Foreign Med. Chir. Review*, *Oct.* 1853, p. 506.

tween the passive and active forms of œdema. The presence or absence of the signs of pregnancy will solve the first question, and the second will be decided by the presence or absence of constitutional distress.

658. *Prognosis.*—As long as the disease is passive, and not excessive, the prognosis is favorable; but it will be modified if erysipelas or phlegmon occur, according to the extent of this complication.

When the dropsy is general and acute, the prognosis is always grave, and it may be altogether unfavorable if the attack be violent.

659. *Treatment.*—Rest in the recumbent posture will be sufficient for moderate degrees of the œdema from pressure; but if more excessive, we must try mild saline purgatives, with diuretics; though it must be confessed that they often fail.

In cases of extreme distension, where we dread the skin giving way, it will be better to evacuate the fluid by small punctures with the lancet, or a needle, in the leg or foot.

The fluid must also be evacuated in those cases where the size of the labia offers an impediment to the completion of labor; but this is better done by repeated blisters than by punctures.

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Blood should be taken from the arm, and an active purgative administered. Tartar emetic in small doses will also be found useful.

These remedies are to be repeated or modified, according to the violence or continuance of the attack; and in general we shall succeed in subduing it, if we are called sufficiently early.

CHAPTER VII.

ASCITES. HYDROTHORAX.

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upon the constitution of the person. As to the quantity, it is impossible to fix any limits; it depends partly upon the extent of secreting surface, and partly upon the duration of the discharge. As the secretion is necessary for uterine health, the sudden interruption of it is generally attended with evil consequences.

672. 6. *The secretions and excretions.*—From the exertions of second stage of labor the secretion of the skin is increased, so that the surface is bathed in perspiration. After delivery, this active state of the secretion diminishes somewhat, but still continues above the ordinary standard; and very often the perspiration has a faint sickly color. The skin is soft and flabby, with a slightly greasy feel. As convalescence progresses, the surface returns to its natural state.

The kidneys may retain their usual activity, or, which is more frequent, have it somewhat increased after delivery, notwithstanding the unusual amount of perspiration; but this may be owing to the diet consisting principally of fluid matter.

The state of the bowels varies; sometimes it is unaltered; in others it is the reverse of what it was during gestation, patients who were constipated having now no need of medicine; and those who were annoyed by diarrhœa having solid motions. The latter change is by no means uncommon, and may probably be owing to the increased secretion from the skin and kidneys.

7. *The milk.*—The enlargement of the breasts during gestation is generally accompanied with the secretion of the serous fluid, differing from true milk, though in some cases (seldom with first children) true milk is secreted during labor, and the woman can give suck immediately afterward.

In ordinary cases, however, the breasts remain quiescent for about twenty-four hours, but soon after that begin to enlarge, with stings of pain. At the end of the second or beginning of the third day, they are perceptibly larger, heavier, and more tense: the patient may suffer from rigors, heat of skin, pain and soreness of the breasts, and the pulse is quickened. At this time the secretion commences, at first slowly with difficulty, but afterwards more freely, and in proportion to the freedom is the diminution of the pain and fever, until, after a few days, it takes place without distress or disturbance. The milk (colostrum), during the first five or six days, differs from that secreted afterwards, and often acts as a purgative to the child.

CHAPTER II.

MANAGEMENT OF WOMEN IN CHILDBED.

673. I CANNOT do better than follow the order in which I have noted the phenomena of childbed.

In ordinary cases the *shock to the nervous system* does not require any active treatment. The patient should be kept in a state of perfect quiet, the room slightly darkened, and very few persons except the nurse admitted. Little talking should be allowed, and no whispering. Everything calculated to excite mental emotion should be avoided, and the patient be kept calm and cheerful. The horizontal posture should be strictly preserved, and the patient allowed to sleep, after which the nervous system will have recovered its tone, and the patient will be free from danger on this account.

674. As the state of the *pulse* is merely symptomatic, it will be best remedied by our successful management of the patient in other respects. It should be narrowly watched, and accurately estimated, as its deviations will often be the first evidence of mischief going on.

675. Immediately after the expulsion of the after-birth, a warm napkin should be applied *to the vulva*, and changed at short intervals during the day. This will afford relief from the smarting pain consequent upon the passage of the child. After some hours, when the patient is recovered, the external parts should be washed with tepid milk and water, containing a small portion of spirit. This must be repeated twice a day, not only for the sake of cleanliness, but to aid in restoring the parts to their natural state.

A horizontal posture is peculiarly favorable to the general condition of the patient, and especially to the uterine system, in the relaxed state in which it is after delivery; the patient cannot assume an upright position without a certain amount of displacement, and a risk of hemorrhage, or possibly of sudden death. By keeping the patient on her back, we may even remedy old displacements. A lady had prolapsus uteri after her second confinement, which lasted till she became again pregnant; this was mentioned to me when I was called to her in her third labor. I kept her unusually long in bed, and subsequently on a sofa, and the parts completely recovered their natural state, so that she suffered no more from the displacement. In ordinary cases, the *after-pains* require no treatment; but if they should deprive the patient of sleep, we may give an aromatic purgative or a dose of laudanum.

The only attention which the *lochia* require, is, that the napkins should be changed sufficiently often, and applied warm, as any sudden impression of cold to the external parts may be followed by suppression of that discharge.

676. Directions should be given for the patient to void urine within

six or eight hours after delivery, or sooner; and this should be done as nearly in the horizontal posture as possible. Owing to the distensible state of the abdominal parietes, the patient will often wait much longer, if not reminded; and the consequences may be very troublesome if not serious. The bladder may become paralized, or inflammation may spread from it to the peritoneum. If there should be any difficulty in evacuating the bladder, as sometimes happens, a cloth wrung out in warm water, and applied to the vulva, will probably remove it; or, if not, we must have recourse to catheterism.

677. The *state of the bowels* after delivery is of great importance; it is, perhaps, better that they should continue quiet for twenty-four hours after delivery; but after that time has elapsed, we should procure a discharge by medicine, if there should be none spontaneously. A dose of castor oil, senna, or rhubarb, may be given, and, if necessary, repeated. The frequency of repetition must be regulated by the state of the bowels previous to labor. If we suspect any accumulation, we should not be satisfied until the intestines are well cleared out; and if the patient do not suckle her child, purgatives will be the more necessary, for the relief of the breasts. In the latter case, the saline purgatives will be found the more useful.

678. The state of the surface will point out the propriety of not exposing the patient to a draught of cold air. She should be allowed to cool gradually, and then the bed and bed-clothes so arranged as to afford a comfortable degree of warmth. The chamber should be kept cool and fresh. The smaller the fire (if there be one) the better.

679. When the breasts begin to enlarge and become painful, relief may be obtained by friction with warm oil or fomentations, at the same time giving a dose of aperient medicine. But the best remedy is the application of the child; and the sooner this is done the better, as the secretion and escape of the milk will be facilitated, the feverishness diminished, if not avoided, and a good nipple more easily formed than when the breasts are distended.

It is better to do this, even if it should not be the intention of the patient to suckle her infant, as it will afford relief; and by not suffering the child to do more, we insure the ultimate subsidence of the secretion, which is always in proportion to the demand upon it; if this be very slight, it will soon cease altogether.

680. The importance of preserving the horizontal posture has already been stated; I shall therefore merely add, that the patient should never leave her bed, even to have it made, before the eighth or ninth day; far more mischief results from premature exertion than from all the errors in diet added together.

681. The regulation of the diet is, nevertheless, of considerable importance, as excess, by inducing feverishness, may retard the convalescence. The patient should be confined to slops—gruel, panada, arrow-root, milk, whey, weak tea, &c.—with bread or toast and butter, or biscuit, for five or six days. When the excitement produced by

the secretion of milk has subsided, if there be no counter-indication, she may take some broth, and on the seventh or eighth day some chicken, or a mutton chop, with some wine and water.

In all that concerns the diet, or the assumption of the upright position, or making exertion, it cannot be too strongly impressed upon all, that an excess of caution is an error on the safe side.

CHAPTER III.

ON CERTAIN VARIATIONS FROM ORDINARY CONVALESCENCE.

682. Although the following observations are a deviation from the plan I proposed, yet I should not feel justified in their omission, and I do not know that a better opportunity will offer for them than the present, as they may be usefully compared with the preceding description of ordinary convalescence. These deviations may depend upon the constitution, or the character of the labour, or upon pressure exercised locally. Even without reference to the influence of the labor, there are certain irregularities which occasion anxiety both to the patient and to her physician. Some of these issue in serious disease; others, more numerous, are mere temporary deviations from the normal course, but requiring familiarity and tact to distinguish them from the more important attacks. Of the more serious affections—such as phlebitis, puerperal fever, &c.—I shall enter fully in the latter part of this volume.

683. 1. *The nervous shock* may be very severe. In these cases the patient complains of great exhaustion; the senses are either unnaturally dull, or morbidly acute, the breathing is hurried and panting, and the accordance between the respiration and circulation is broken. The aspect of the patient is that of a person in a state of collapse. The countenance is expressive of suffering, anxiety, and oppression. The pulse may be either very slow and labored, or unusually rapid, very small, and fluttering. There are many cases, however, where the shock, though far from being so severe as in the case I have supposed, is quite sufficiently so to excite the fears of the medical attendant. Reaction is long before it occurs, or it may take place imperfectly or excessively, and the patient remain for some time in a very weak condition.

Under proper treatment, the patient will gradually recover from this state of exhaustion or collapse, unless the shock be extreme, and then death will supervene in a few hours. I have seen several cases of this kind; in one case, the labor was tedious, but terminated naturally; two others were instrumental deliveries; but in none, where a *post mortem* examination was obtained, was there either injury or disease discovered. A due estimate of the nervous shock is of great importance in severe cases; for in almost every instance the progress of the convalescence is in inverse proportion to the amount of this disturbance.

The best remedy in these cases is opium, either in a large dose, or in small and repeated ones; it not only gives the patient a chance of sleep, the best restorative of all, but even if it fail in this, the system will be quieted, the respiration rendered more equable, the pulse slower and more natural, and the relation between these two systems restored.

The exhibition of stimulants (wine or brandy and water) in moderate quantities is necessary; but we must be careful not to exceed, or they will do mischief instead of good. The amount of stimulants given in cases of collapse should have some reference to the probable reaction, as well as to the present state of the patient. Ammonia or musk are the best medicinal stimulants, and they may be combined with the opium. The diet of the patient, when the effects of the shock have subsided, must be nutritious. It may be necessary to postpone the application of the child to the breast for some days, or even to give up suckling altogether in some cases.

All that has been said already upon the necessity of perfect quiet, applies with ten-fold force to these cases of extreme nervous shock.

684. 2. *The state of the pulse.*—One variation from the usual alternations of the pulse has just been noted, in cases of great nervous shock, when it either sinks below its due proportion, or more frequently remains very quick, weak, and fluttering, during the period of collapse.

In almost all the cases of flooding after labor, when I have had an opportunity of examining the pulse up to the time of the occurrence, I have found it remain quick, and perhaps full, instead of sinking after delivery. This has been so marked in several cases, that I now never leave a patient so long as this peculiarity remains; and in more than one instance I believe the patient has owed her safety to this precaution. Three cases occurred within a very short time of each other, in which I noted this undue quickness of the pulse without any other untoward symptom; at that time there was no excessive discharge, and the uterus was well contracted. In all these, alarming hemorrhage occurred within an hour, and was with difficulty arrested. I have also remarked an undue frequency of pulse when the after-pains are extremely violent; and as the uterus is in such cases rather tender on pressure, it requires care to distinguish between this state and the commencement of puerperal fever. This observation will also apply to the quickening of the circulation, which takes place when lactation commences, and which, in addition, is accompanied by rigors. A careful examination, however, will generally lead us to a correct conclusion, and the subsequent diminution of the frequency of the pulse will remove all doubt. Again, the pulse is quickened when a large coagulum is contained in the uterus, or if the patient suffer from diarrhœa, or gastric disturbance. In some of these cases the diagnosis may be obscure, and it may be necessary to suit our treatment rather to the anticipated attack than to the present symptoms; thus, we may give small doses of blue pill or calomel in combination with opium, along with medicines suited to the peculiar symptoms present.

All the observations I have been able to make, confirm Dr. John Clarke's remark, that no patient can be considered safe, whose pulse exceeds one hundred.

685. 3. *The state of the uterine system.*—Instead of a gradual decrease in the size of the womb, I have occasionally found on the fifth or sixth day that its bulk has increased, and that it has felt less firmly than previously: this, combined with increased frequency of the pulse, has apparently threatened an attack of hysteritis; nor was this anticipation lessened, by the uncomfortable sensations of the patient, nor by the sudden decrease of the lochia. However, in most of these cases, I found upon applying hot fomentations to the abdomen, that more or less coagula were discharged, affording instant relief to the patient, and indicating the source of the symptoms. Purgative enemata also favor the expulsion of the clots; and in such cases may be given with great benefit.

Dr. Simpson has published some interesting observations on the morbid deficiency and morbid excess in the involution of the uterus after delivery, and has given several cases in which the uterus continued for a considerable time as large as after delivery. It is not the result of any deposit, and the histological characters are those of the pregnant uterus. These cases are not common, but the opposite extreme is still more rare. In one case related by Dr. Simpson, the patient after her confinement suffered from amenorrhœa, anæmia, and diarrhœa, under which she finally sank; and on examination the uterus was diminished one-third below the natural standard.* Similar conditions of the uterus had been pointed out by Dr. Montgomery.†

It has been already mentioned that the uterus is not free from tenderness in cases where the after-pains are severe; and if it be rudely pressed, the outcry of the patient may lead us to suspect the presence of serious disease. It will be observed, however, that this tenderness is *greatest during each uterine contraction, and that as these contractions subside, the soreness diminishes.*

Fomentations to the abdomen will generally mitigate this sensibility; but if the after-pains be severe, and the tenderness considerable, a full dose of laudanum, followed by an aromatic purgative, will probably relieve both.

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* Edin. Monthly Journal, Aug. 1852, p. 127.

† Dublin Journal, Nov. 1835. Ibid. vol. xxiii. p. 161.

The *vagina* may be attacked with inflammation, which sometimes proves extremely distressing: this will form the subject of a separate notice.

In cases where the lochia are acrid the orifice of the vagina, with the labia and external parts, are apt to be excoriated. The patient may suffer extremely either from a smarting pain, or from itching; and it is difficult to say which is the more distressing. Extreme cleanliness, frequent bathing, lead lotions, black wash, or vaginal injections of warm water, may be tried, and will ordinarily afford relief: if not, the disease will generally subside with the cessation of the lochia.

686. 4. The *after-pains.*—Instead of the after-pains coming on about half an hour or an hour after the labor, in moderate degree, and ceasing after a short time, they occasionally commence immediately after the extrusion of the placenta with great severity, and long continuance. In these cases the tenderness of the uterus is marked, but when the pain is relieved by remedies, the tenderness disappears also. The pulse, also, is quickened for the time. This deviation does not depend upon the presence of coagula, as in the worst cases I have seen none were expelled, but it seems rather a spasmadic contraction of the uterine fibres. The best remedy is a full dose of opium, which should be repeated if necessary. At the same time hot flannels may be applied to the abdomen and vulva.

The after-pains sometimes continue at intervals, unusually long, and are very severe whenever the child is applied to the breast. They occasion distress and exhaustion by preventing sleep, and should therefore be relieved if possible, by cordials, aromatic purgatives, or a dose of opium.

687. 5. The *lochia.*—Variations in the quantity, quality, or odour of the lochia, not unnaturally excite great alarm in the mind of the patient, who regards any deviation in this secretion as a proof of serious disease. Yet very remarkable differences do occur, without any morbid affection of the uterus or vagina.

The discharge may cease a few hours after delivery, especially after the birth of still-born or putrid children, without any unpleasant symptoms.

The discharge may continue the usual time, but in very small quantity; and this is commonly the case when flooding occurs during or after delivery.

On the other hand, it may be excessive, though not prolonged beyond the usual time; or without being excessive, it may continue unusually long. In these cases it may be necessary to allow the patient a better diet, and to give tonics, such as bark, preparations of iron, &c.

In some cases, the lochia, after decreasing in quantity for some time, are suddenly discharged in double quantity, and of a red color, but without coagula. This generally happens when the patient is permitted to sit up too soon. Or it may happen at a later period, in consequence of walking about too much. A little extra rest will however, suffice to restore the patient to her former state.

Again, the os uteri is sometimes obstructed by a clot, and the lochia are greatly diminished, or perhaps altogether retained, until the expulsion of the clot affords an exit to the accumulation.

Instead of the usual changes, from red to yellow, or greenish, the red discharge may persist; or after these changes have taken place, the red discharge may return. In these cases, it is necessary to be on our guard, as the change may be the precursor of secondary hemorrhage. The patient should be confined to the horizontal position, and clothed very lightly.

The lochia, after going through their ordinary changes, may terminate in uterine leucorrhœa, which may become permanent. This will be best remedied by counter irritation to the sacrum, and the internal exhibition of copaiba, iron, or ergot of rye.

Again, the unusual color of the lochia may excite alarm. Instead of the transition from a red to a pale red, yellowish, or greenish color, they are sometimes of a dark brown, and perhaps more tenacious than usual, or acrid, so as to excoriate the vulva.

Lastly, examples occasionally occur where the lochia have a very offensive fœtid odour, occasioning great annoyance both to the patient and her friends. The discharge is generally of a dark color, and often acrid. It may arise from the decomposition of a small portion of the placenta or membranes which were left in the uterus or vagina, or from the putrefaction of coagula. In such cases the vagina should be syringed two or three times a day with warm milk and water, or a very weak solution of chloride of lime.

688. 6. The *bladder.*—"After severe labor," says Dr. Burns, "the neck of the bladder and urethra are sometimes extremely sensible, and the whole of the vulva is tender, and of a deep red color. This is productive of very distressing strangury, which is occasionally accompanied with a considerable degree of fever. It is long in being removed, but yields at last to a course of gentle laxatives, opiates, and fomentations. Anodyne clysters are of service. An inability to void the urine requires the regular and speedy use of the catheter."

Retention of urine is not very unfrequent after a prolonged first labor. It is distressing, but not dangerous, and I have generally found the bladder resume its functions after seven or eight days; during which catheterism will be necessary once or twice a day. I have no doubt that it results from a slight degree of inflammation, caused by pressure, or from a spasmodic action of the sphincter.

689. 7. The *breasts.*—Variations in the period at which the milk is secreted are common, but of no moment. If the vascular action

be excessive, it must be moderated by antiphlogistic remedies, such as tartar emetic, purgatives, fomentations, &c. and by the frequent application of the infant.

If, as in some rare cases, no secretion should take place, the child will require a wet nurse, but the mother will not suffer.

When the nipples are deficient or mal-formed, we must endeavour to draw them out by the breast pump; but if this do not succeed, we must obviate the ill effects of the secretion of milk, by tartar emetic, saline purgatives, fomentations, &c.

CHAPTER IV.

SANGUINEOUS TUMOR OF THE LABIA.

690. THE first British writer who described this accident was Dr. Macbride of Dublin, who, in 1776, communicated two cases to Dr. Hunter, which were published in the *Medical Observations and Enquiries.*[*] It had, however, been previously noticed, for Dr. Merriman observes: "Dr. Macbride, of Dublin, is generally supposed to be the first author who described this kind of tumefaction of the labium, in 1776; but I have met with a very exact description of it in the *Observations of Veslingius*, published in 1647: he says, Obs. 50, Alias jam bis observassem ab effuso intra tunicas vaginæ sanguine in partu difficili pudendi labium ingenti tumore distensum fuisse, quo aperto sanguineque atro paulatim evacuato, mulieres evasere."[†]

Professor Boer, of Vienna, in his *Medicina Obstetrica*, has a chapter, *De fluxu quodam sanguinis in puerperis ante incognito*, in which he describes a most extensive separation of the vagina from its attachments, in consequence of an immense effusion of blood into the cellular substance.

In order that my readers may have an accurate notion of the occurrence, I shall extract the first of Dr. Macbride's cases. "One morning, in the month of August, in the year 1776, I was called on by a gentleman's servant to visit his wife, who, he said, had been delivered about an hour before, but, nevertheless, continued in very great pain, and by the people about her was believed to be in a dying way. On an examination, I soon found that the distress was occasioned by a large and very painful swelling of one of the labia, which the woman told me had formed itself soon after delivery, though she had a natural and easy labor." "I sent for Dr. Cleghorn and the gentleman who had delivered her. By the time that these gentlemen came, which was about an hour, the swelling had acquired the size of a new-born child's head, was exceedingly painful and hard, and extending itself to the perinæum, had a most frightful aspect, as the skin was grown livid. The case being new, none of us could well ascertain the true nature of this tumor; but having directed the application of stupes, wrung out of a spirituous fomentation, we agreed to see her again in the evening. At the second visit, we found the pain nothing abated, but the swelling more enlarged, the integuments mortified, and ready to burst at the most prominent part of the tumor. In the course of the night, this actually happened, and a large quantity of coagulated blood having discharged itself from the opening, the pain ceased in a great measure, and the swelling was found reduced at least three-fourths, by the time that we paid our morning visit." "There being now a considerable space of the skin in a mortified state, the fomentation was ordered to be continued, and proper digestives applied, with a view of encouraging the separation of the sloughs. For about a week, the quantity of coagulated blood that came away in lumps, was considerable at each dressing; but this discharge gradually abated, and the remainder of what had extravasated was either melted down in the course of suppuration, or taken back by absorption, so that by the end of two months there were no remains left of the swelling, the sore healed up, and the woman found herself free from all complaint."

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[*] Vol. v. p. 89.

[†] Merriman's Synopsis, p. 111, *note.*

A third case was read by Dr. Rainey of Dublin, in 1774; a fourth was published by Dr. Maitland, in 1779;[*] and a fifth by Mr. Perfect, in 1783.[†] Denman met with three such cases,[‡] and the accident is mentioned as one of the complications of labor by Burns, Merriman,[§] Dewees,[‖] Hamilton,[¶] Campbell,[**] Davis,[††] and the more recent writers on midwifery.

Cases have also been related by Chaussier,[‡‡] Mad. La Chapelle,[§§] and by a writer in the "Recueil periodique de la Societè de Saute de Paris." In Germany it has been described by Schreider,[‖‖] Boer,[¶¶]

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[*] Med. Commentaries, vol. vi. p. 86.
[†] Cases, vol. ii. p. 63.
[‡] Midwifery, p. 406.
[§] Synopsis, p. 111.
[‖] Diseases of Females, p. 32.
[¶] Outlines of Midwifery, p. 87.
[**] Midwifery, p. 328.
[††] Obstetric Medicine, vol. i. p. 45.
[‡‡] Vol. xxxiv. p. 268.
[§§] Prat. des Accouch. vol. vi. p. 200.
[‖‖] Siebold's Journal, vol. xi. p. 103.
[¶¶] Medicina Obstetrica.

Siebold,[*] Ebert, Carus,[†] Naegele junior, Stendel, and others. In his excellent and elaborate address, delivered at the fourth anniversary meeting of the Provincial Medical and Surgical Association, held at Manchester, July 21, 1837, Mr. Crosse[‡] remarks: "In no branch of midwifery have more contributions been furnished, within the recent period to which I refer, than in regard to certain *varices* attaining an enormous size, and bursting, so as to form sanguineous extravasation into the labia or cellular texture of the pelvis and vagina, often with a suddenly fatal result. Within the sphere of my own observation, one case has recently transpired, which led to a coroner's inquest, as unfortunate cases in this line of practice are not unfrequently found to do—affording strong proof of the responsibility incurred by the accoucheur. The names of Phillipart,[§] Naegele,[‖] jun. Stendel,[¶] and others,[**] may be enumerated, in the impossibility which I find of dwelling upon the subject; and the elaborate paper of Mr. Ingleby, upon the tumors[††] obstructing delivery, may be consulted as affording the best rule for discovering and treating such cases."

And at a meeting of the Dublin Obstetrical Society, Dr. Montgomery gave an account of two such cases.[‡‡]

Dr. Rogers has related a case which occurred before delivery, terminating after puncture.[§§] Dr. F. Ramsbotham has published 5 cases, 2 of the right labium, and 3 of the left, which occurred after labor, and opened spontaneously. There was a good deal of hemorrhage, but all recovered well. He removed the clots and applied poultices.[‖‖]

From this brief summary, it appears that although the occurrence is rare, it is by no means so uncommon as at first supposed.

691. This disease, which consists of an effusion of blood into the cellular tissue, may affect one or both labia, and may extend into the pelvis, and downwards to the perineum. It may occur during labor, previous to delivery of the child, but more frequently immediately after its termination.

In Dr. Maitland's, Mr. Perfect's, MM. Naegele's, jun., Stendel's, and Mr. Rogers' cases, it occurred previous to delivery; in some at rather an early stage of labor. Of course in such cases it offers a considerable impediment to the exit of the child, and it is in some cases so great as to require artificial aid to extract the child, whether the tumor have burst or not. When the tumor is also rather within the orifice of the vulva, it may probably, and indeed appears to have been, in two or three cases, mistaken for the "bag of the waters;" but a more careful examination will prevent this error.

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[*] Frauenzimmerkrankheiten, vol. ii. p. 482.

[†] Med Chir. Rev. vol. xxii. p. 224.

[‡] Trans. of Prov. Med. and Surg. Assoc. vol. v. p. 95.

[§] Bull. Med. Belge, vol. i. p. 90.

[‖] Heidelburger Klinische Ann. vol. x. pp. 417-31.

[¶] Kleiner's Repertorium, May, 1835, p. 31.

[**] Journ. de Med. et de Chir. prat. Oct. 1835.

[††] Edin. Med. and Surg. Journ. vol. xiv. p. 107.

[‡‡] Dub. Journ., May, 1851.

[§§] New Jersey Med. Report, April, 1850.

[‖‖] Med. Times and Gazette, Oct. 1852, p. 367.

More frequently, however, the tumor appears after labor; sometimes immediately; in other cases, as Dewees remarks, after a short interval. It does not require either a difficult or a tedious labor for its production; in many cases the labor has been short and easy, as in Dr. Macbride's cases; but it must be admitted, that with the predisposition (whatever it may be) existing, there would be greater probability of its occurrence in the former class of cases.

The effusion may occupy one labium, or both; in some cases it extends downwards to the perineum; in others, inwards into the pelvis, and the amount seems to be determined by the distensibility of the surrounding tissues. When the tumor is ruptured soon after its formation, the hemorrhage may be uncontrollable and unlimited.

The aspect of the disease is very alarming; the size of the tumor, often as large as a child's head, its red or purple color, and the agonizing pain, together with its occurrence at a time when all appears to be going on favorably, or to have happily terminated, are calculated to produce a fearful impression.

692. *Causes.*—There can be no question that the effusion arises from the rupture of some vessel, by the pressure of the child's head during its passage through the pelvis; but there is some doubt from what vessels the blood escapes. The quantity is so great, that it has been supposed impossible that it could proceed from the vessels supplying the part, which are ordinarily small; but it must be recollected, as previously stated, that these vessels are often in a varicose state during pregnancy.

Dr. Burns supposes some of the vessels in the nymphæ to be ruptured; Dr. Dewees, that the vessels of the vagina give way; and Drs. Davis and Campbell, the pudic vein.

Mr. Crosse, in his address, regards the tumors as the result of a rupture of vaginal varices, nor can we deny that this is possible. That the veins of the labia, the parts about the origin of the vagina, and the vaginal canal, do become varicose, and occasion considerable inconvenience, every one knows; but the frequency of this condition, compared with the rarity of the sanguineous tumors, is rather an argument against the dependence of the latter upon the former.

693. *Symptoms.*—There is nothing in the character of the labor to excite alarm; the cases have almost always occurred with natural labors.

The patient's attention is first attracted by the swelling of the labia, and the feeling of weight and bearing down. If we examine at this period, we shall find one or both of the labia irregularly distended;

and if the tumefaction be great, the labium is everted, so that it appears to be covered externally by the mucous membrane. This has occasioned its being mistaken for the protruding membranes. The color is livid, almost black, and the parts are extremely tender. The tumefaction increases rapidly, until it covers the vulva and perineum, utterly distorting their natural aspect.

In all the cases on record the pain appears to have been excessive, augmenting with the increase of the tumor, until relief is obtained by its rupture; and if this be long deferred, the constitution sympathises and a considerable degree of fever is excited; the pulse becomes quick, the skin hot, there is severe pain in the head, and delirium. The distress is often increased by the retention of urine, from the swollen labium pressing upon the orifice of the urethra.

The patient lies on her back, scarcely able to move, and with the thighs widely separated. She cannot bear even the weight of the bed-clothes. Dr. Dewees observes: "Should the parts not give way, the pain arising from distension is unceasing and truly agonizing; fever of a very active kind is quickly kindled; delirium sometimes attends, and the woman's life becomes severely threatened. Her sufferings are also augmented by the retention of urine, as its passage is prevented by the tumor pressing firmly against the meatus externus of the urethra. The patient can lie only upon her back, with her knees drawn up, and the thighs widely separated. She cannot bear the pressure of the bed-clothes, nor the lightest applications; therefore, it is in vain to offer relief till the distended parts yield spontaneously, or are made to do so by artificial means.*

After the lapse of a few hours, relief from the agony is obtained by the rupture of the labium, which always takes place on its inner surface, and the discharge of blood. The mucous membrane is observed to vesicate, and then to become gangrenous, after which it yields to the pressure. A portion of the blood escapes: but some coagula remain attached, and as these soon putrefy, the wound becomes very offensive. By degrees, however, they are thrown off, or absorbed, and the wound heals.

This rupture sometimes takes place during the labor, and before there has been time for these changes to take place; and in such cases the loss may be considerable, or even fatal. Dr. Macbride's cases both recovered; and in accordance with this favorable result and his own experience, Dr. Denman concludes that the complaint is "void of danger," and others have expressed a similar opinion. No doubt, a great majority do recover; but still there is a sufficient number of fatal cases on record, to justify our regarding the accident as a serious one. M. Phillipart mentions a case in which the left labium became greatly swollen during labor, and ruptured, with an amount of hemorrhage, that proved fatal before delivery.[*] Of Naegele, jun.'s four cases, one proved fatal; "in a second, the swollen labium burst, the coagulum was removed, delivery of a dead child effected by the forceps; in a third, the labium burst while the forceps were being applied, the blood lost appeared arterial, pressure for three hours, then delivery of a dead child with the forceps, recovery; in a fourth case, ten ounces of blood were removed from the labium by an incision, and labor was afterwards completed with safety to mother and child."[†] M. Stendel relates a case in which the tumor burst during labor, and he states that between six and seven pounds of blood were lost; the patient fainted, and expired. Three fatal cases are given in the *Med. Chir. Review*, and Mr. Crosse, of Norwich, met with one in which, "during a protracted labor, rupture of the left labium took place to the extent of two or three inches, followed by great loss of blood, and the patient died undelivered."

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* Diseases of Females, p. 38.

M. Wiffels has recorded a fatal case, where the tumor formed and burst during labor, and the patient died undelivered.[‡]

From these examples it is evident that the danger of a fatal hemorrhage is greatest in those cases where the tumor gives way during labor; next, in those which, occurring during labor, do nevertheless permit its completion without rupture; and least, in those where the tumor does not form until after delivery. This is very intelligible, if we recollect that if the blood be allowed time to coagulate, it will act as a plug or pad upon the bleeding vessels, preventing the escape of more blood until they are closed.

When the distension is very great, and occurs before the birth of the child, it may prove a serious or even insurmountable obstacle to its completion, and require instrumental interference both for the safety of mother and child.

694. *Diagnosis.*—The tumor has been mistaken for—1, *hernia;* but the rapidity of its formation, its size, and its appearance are so different, that a careful examination will at once decide the point.

2. It is said to resemble the "*bag of waters;*" and in Dr. Maitland's case it was punctured by the midwife under this supposition; but the bag of the waters can be isolated from the labia, and traced up to the os uteri, rendering the distinction easy. Moreover, in many cases the sanguineous tumefaction does not occur till after delivery.

695. *Treatment*—In considering the plans of treatment, we must classify the cases into—1, those in which the tumor appears in the progress of labor, and before delivery; and 2, those in which it occurs subsequent to the birth of the child.

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[*] Bull. Med. Belge, vol. i. p. 90.

[†] Sydenham Society's Publication for 1849, on Dis. of Women, p. 520.

[‡] Journ. de Med et de Chir., 1850, p. 74.

I. In the first class of cases the choice is between leaving the case to nature, taking chance of the tumor bursting or not; and opening the tumor, applying pressure and styptics, and completing the delivery by the forceps if necessary.

The danger of trusting the case to nature is, that if the tumor be large, it may either give way with great hemorrhage, or it may offer such an obstacle to the exit of the child, that it will be necessary to use instrumental aid in delivery, and so increase the probabilities of laceration. If, however, the tumor be small, it is possible that labor may terminate naturally, without rupture of the tumor.

The danger of opening the tumor before coagulation has taken place consists of course in the hemorrhage, which we may or may not be able to control, with an equal probability of our being obliged to have recourse to instrumental delivery.

Between these two courses it is difficult to prescribe an absolute choice; much must depend upon the peculiarities of each individual case, and the decision must be left to the judgment of the practitioner. Speaking very generally, however, I think I may say thus much: viz. that in cases where the tumor is of moderate size, and does not offer a serious obstruction to delivery, it will be better to wait, and not lay open the tumor. In Dr. Maitland's case, an opening occurred (or was made by the midwife) at the beginning of labor; the tumor was as large as a child's head, notwithstanding the draining of blood, and the child was delivered naturally thirty-six hours afterwards. There was an opening also in the case related by Mr. Perfect, and although the tumor was large at first, yet it diminished without alarming hemorrhage, and the child was expelled. So that even if the tumor do give way, yet delivery may take place safely and naturally. Dr. Maitland applied fomentations of infusion of camomile, and warm cloths, alternately; and Mr. Perfect's friend, a poultice of bread and milk softened with ung. sambuci. In neither case was the opening intentional; and in both, although much time elapsed after the rupture, before the completion of labor, the recovery was favorable and speedy.

If the tumor, however, be very large, the child will not be able to escape naturally, nor, in all probability, shall we be able to deliver with the forceps without laceration; in such cases, which however are very rare, it will be better to lay open the tumor, plug the cavity with lint or charpie steeped in some styptic, and applying pressure in the best way we can, complete the delivery as soon as possible.

The mode of delivery is worth a moment's consideration, if we are obliged to have recourse to instrumental assistance. It appears that when the hemorrhage is extensive, the child's life is compromised; in two out of three of M. Naegele's cases, in which delivery was effected by the forceps, the children were born dead. Now, as we can almost always determine the life or death of the child by means of the stethoscope, and as it is desirable that as little pressure as possible should be made upon the soft parts of the mother in these cases, I think that when the fœtal heart has ceased to be audible, it would be much safer and better to lessen the head, and extract with the crotchet instead of using the forceps.

696. II. When the tumor appears first after the birth of the child, we ought in the first instance to apply fomentations, poultices, or cold lotions, for the purpose of relieving the pain; but on no account to open the tumor immediately, because the risk of hemorrhage is very great. My friend Dr. Chas. Johnson, has mentioned to me a case in which the tumor was opened within twelve hours, and notwithstanding that the vagina was plugged, and every means used, it was with great difficulty that the hemorrhage was restrained.

Some time should therefore be allowed to elapse, if the pain be at all bearable, before we make an incision; but inasmuch as an incised wound will heal more favorably than one resulting from mortification of the outer skin, we may anticipate this occurrence with advantage, and after waiting some hours to give time for the coagulation of the blood, or at any rate, the moment the cuticle vesicates, a free incision should be made into the tumor, and the fluid blood, with such of the coagula as are loose, be allowed to escape.

If the bleeding continue, it will be advisable to apply some styptic inside the cavity, or to fill it with charpie; if there be no fresh bleeding, a poultice may be applied. It is better not remove the adhering coagula at first, as they are a security against hemorrhage; but after a day or two, a great portion of what remains may be scooped out, and the remainder will gradually soften and come away with the poultices, exhibiting underneath, healthy granulations which speedily fill up the cavity. Nothing more will be necessary than constant poultices, sprinkled, if necessary, with a solution of the chloride of lime, and if the granulations be too exuberant, a touch with the nitrate of silver. In no case does there appear to have been any trouble or difficulty in healing the wound, and more than one of the patients were delivered subsequently without a repetition of the accident.*

The diet of the patient should be strictly antiphlogistic, so long as the fever continues; but after suppuration is established, it will be necessary to allow good diet, with wine and tonics.

The bowels should be kept free.

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* Sydenham Soc. Vol. on Diseases of Women, p. 522.

CHAPTER V.

INFLAMMATION OF THE VAGINA.

697. After an ordinary labor, whatever irritation or inflammation of the vagina may arise, speedily subsides, unless the irritation be kept up by an acrid discharge.

But when the second stage of the labor has been tedious, so that the head has remained a long time in the pelvis, pressing upon the soft parts; or when there has been a difficulty, from narrowness of the passage; or lastly, in malpresentations, and in all cases where an operation is required, the vagina is exposed to be attacked by severe inflammation.

698. *Symptoms.*—After the smarting pain caused by the distension of the parts has ceased, the patient complains of heat in the vagina and external parts: this is soon followed by pain and scalding. There is also a sense of fulness and weight in the pelvis. If we make an examination, we shall probably find the external parts swollen, and as it were bruised. On turning aside the labia, and gently dilating the vagina, it will be found thrown into large rugæ of a bright red color, the heat is greatly increased, and the slightest touch gives acute pain. If the red lochia have ceased, we may find the discharge thickened and rendered opaque by a puriform secretion from the vagina, though at an *early* period, as is usual in inflammation of mucous membranes, there is but little discharge.

699. *Terminations.* 1. *In resolution.*—If the disease be detected early, and the proper remedies applied, it may subside quietly, without doing permanent mischief. The decrease of pain and soreness will be an evidence that it is thus terminating.

2. *In suppuration.*—If the inflammation be obstinate, we shall find after some days, the mucous membrane converted into a sloughing surface. The extent of these sloughs will vary; they may be limited to the spots where the pressure has been most severe, or, as in a case lately under my care, they may involve the whole vagina. An internal examination will detect their extent, and when the sloughs separate, we shall find the canal denuded of mucous membrane in a greater or less degree. In general, the destruction does not penetrate deeply, except at the back of the bladder and the under surface of the urethra; and it is not uncommon to find an opening formed in these parts, which may occasion much trouble and distress. Sometimes, though less frequently, a recto-vaginal fistula is formed. As the process of healing goes on in the denuded surface of the vagina, extremely troublesome cicatrices frequently form, consisting of irregular bands of firm tissue, disposed across the vagina, or in the form of circular or spiral rings. These cicatrizations diminish the calibre of the vagina,

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render sexual connection difficult, painful, or perhaps, impossible, and materially impede the progress of labor, should the patient become pregnant subsequently.* It is only by the greatest care and watchfulness, during the healing of the sloughs, that these unpleasant consequences can be prevented.

3. *In gangrene.*—If the pressure have been very great, the parts most subject to it may mortify and slough. When these sloughs separate, we may find a vesico-vaginal fistula, and during the healing, circular cicatrices may form, as already described. It is very seldom that the rectum is perforated.

700. *Treatment.*—In the inflammatory stage, the remedies must be antiphlogistic, varying in amount according to the intensity of the inflammation. It may be advisable to take some blood away from the arm, or apply leeches to the vulva. I have found tartar emetic, in combination with a saline purgative, of great use. It should be given so as to nauseate the patient, without producing vomiting.

The external parts should be well fomented two or three times a-day, and during the intervals, a poultice may be applied over the vulva. Two or three times a-day also, the vagina should be syringed with tepid milk and water, or a weak solution of the acetate of lead; and I would strongly recommend the medical attendant to do this himself, unless he can *perfectly* depend upon the nurse. After the sloughs have separated, a careful examination should be made every second day, to ascertain the progress of healing; and when the surfaces begin to be covered with new membrane, we must take measures for preventing the formation of cicatrices. This can only be done by the repeated introduction of bougies, and the best kind are tallow or wax candles. At first a small-sized one should be oiled and introduced, night and morning, and allowed to remain a quarter of an hour. Afterwards, as the tenderness diminishes, the size of the candle should be increased, and it should be introduced oftener and retained longer. The warm injections should be continued, and the milk and water may be changed for some slightly astringent fluid. If this plan be carefully and steadily pursued, we shall, in most cases, prevent the narrowing of the vagina. In the case under my care already alluded to, the sloughing was most extensive, yet by these means the vagina was healed, with a perfectly smooth surface.

The treatment necessary for the vesico-vaginal or recto-vaginal fistula will be described when speaking of "lacerations."

If the patient be much exhausted, tonics and good diet will be necessary, after the inflammation has been subdued.

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* Dr. E. Kennedy on Occlusion of Vagina, &c.—*Dublin Journal*, vol. xvi. p. 86.

CHAPTER VI.

RUPTURE OF THE UTERUS.

701. UNDER this head I propose to treat of rupture of the uterus and vagina.

This formidable and very fatal accident has long been known to practitioners in midwifery.*

It is not, however, confined to the time of parturition, but may occur during gestation, or at a more advanced period of life.

702. STATISTICS.—The following table will indicate the frequency of its occurrence:—

Authors.	Total No. of Cases.	Cases of Rupture.
Dr. Jos. Clarke	10,387	8
Dr. Merriman	2,947	1
Dr. M'Keever	8,600	20
Dr. Collins	16,654	34
M. Pacaud	4,180	2
Dr. F. H. Ramsbotham . .	68,435	13
Dr. Toogood	1,135	4
Mr. K. Watson	800	3

Making a total of 85 cases in 113,138 patients, or about 1 in 1331.

Dr. Burns says that it occurs about once in 940 cases.

It rarely occurs with first children.

Of Dr. Jos. Clarkes cases—

1 was the 2nd pregnancy.
1 ,, 3rd ,,
2 ,, 4th ,,
1 ,, 7th ,,
1 ,, 8th ,,
1 ,, 9th ,,

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* I would recommend to the attentive perusal of the reader a most valuable monograph on this subject by Dr. J. D. Trask, Amer. Journ. of Med. Sciences, Jan. and April, 1848.

Dr. M'Keever's Cases—

4 had 2 children.
5 „ 3 „
4 „ 6 „
2 „ 7 „
2 „ 8 „
1 „ 9 „

Of Dr. Ramsbotham's cases—

2 were 2nd pregnancies.
1 „ 4th „
3 „ 7th „

Of Dr. Collins' 34 cases—

7 were 1st pregnancies.
6 „ 2nd „
6 „ 3rd „
2 „ 4th „
2 „ 5th „
5 „ 6th „
1 „ 8th „
1 „ 9th „
2 „ 10th „
2 „ 11th „

Dr. Cathral's case was a first pregnancy.* Dr. Sims' patient had had several children.† Dr. Hooper's case was the 4th pregnancy;‡ Mr. Kite's,§ the 2nd; Dr. Frizell's,‖ the 7th; Mr. Powell's,¶ the 1st; Mr. Birch's cases were the 3rd and 4th pregnancies.** Mr. Partridge's case was the 7th pregnancy.††

Thus of 75 cases, 9 occurred in the 1st pregnancy; 14 in the 2nd; 13 in the 3rd; and 37 in the 4th or subsequent pregnancies.

In Dr. Trask's collection 24 cases occurred in the 1st pregnancy; 18 in the 2nd; 17 in the 3rd; 21 in the 4th; 18 in the 5th; 16 in the 6th; 9 in the 7th; 5 in the 8th; 5 in the 9th; 9 in the 10th; 8 in the 11th; 3 in the 12th; 2 in the 13th; and several in the 17th.

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* Med. Facts and Obs. vol. viii. p. 146.
† Ibid. p. 150.
‡ Mem. of Med. Society, vol. ii. p. 118.
§ Ibid. vol. iv. p. 253.
‖ Trans. of Association, vol. ii. p. 15.
¶ Med. Chir. Trans. vol. xii. p. 537.
** Ibid. vol. xiii. p. 357.
†† Ibid. vol. xix. p. 72.

703. *Causes.*—Various causes may give rise to it, and it may happen at different periods.

704. 1. *During gestation.*—That form of extra-uterine pregnancy which is called *interstitial fœtation*, may give rise to it. The ovum, instead of passing direct from the Fallopian tube into the uterine cavity, is retained in an interstice of the uterine fibres, where it grows up to a certain point. As it increases, the outer portion of the uterine parietes become gradually thinner by absorption (as in the case of abscess), and at length gives way, and the fœtus is precipitated into the abdomen, converting the case into one of ventral fœtation.[*] It may also be the consequence of disease, as in Mr. Else's and Dr. Spark's[†] cases; from softening, and from abscess in the walls, as related by Duparcque.[‡] Any violent accident, such as a fall or a blow, or great fatigue, may give rise to it. It sometimes occurs without any assignable cause; the patient, perhaps, is awakened from sleep by it, as in the cases related by Mr. Scott of Bromley,[§] and Mr. Glen of Brompton.[||] It has been attributed to irregular action of the uterine fibres.

705. 2. *During labor.*—*a.* If the uterus have been attacked by inflammation during pregnancy, its tissue may have been so much weakened or disorganized, that the violent contractions which take place during labor may rupture it, from the want of consentaneous action in the part affected, or from the pressure of some part of the child against it. Steidele relates a case where rupture occurred in consequence of gangrene.[¶] My friend, Dr. Murphy,[**] has published an excellent paper illustrative of this cause of rupture, with cases where the uterus was atrophied, thinned, or softened in texture. Duparcque quotes cases of thinning of the uterine walls, softening, scirrhus, and gangrene. Dr. Trask states that of 49 cases in his collection, where the condition of the uterus was given, in 10 it was healthy; in 14 it was thinned; in 14 softened; in 1 both thinned and softened; in 2 both softened and thickened; in 1 thickened; in 3 diseased. In some cases the seat of the laceration corresponds exactly with the situation of the previous pain. Dr. Tyler Smith believes that in many cases, violent uterine action is in itself the cause of rupture; the immediate cause being either emotion or volition, or a reflex or peristaltic action. The period of labor at which the rup-

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[*] Med. Gazette, vol. ii. p. 400.

[†] Ibid. vol. iii., p. 218.

[‡] Ruptures de l'Uterus, pp. 15, 16.

[§] Med. Repository, vol. vii.

[||] Merriman's Synopsis—Appendix.

[¶] Diss. de Rup. in Partu. dolor. Utero.

[**] Dublin Journal of Med., vol. vii. p. 198.

ture may occur from this cause will vary; it may be at the beginning, before the rupture of the membranes; during the passage of the head through the pelvis, or after the delivery.

b. A certain amount of narrowing of the upper outlet may give rise to it. This is purely a mechanical cause. The head of the child is forced downwards by violent labor pains, but is unable to enter the pelvis, from the contraction of the upper strait; now if the pains continue with great power, the head is turned to one side or the other, or posteriorly; and the only obstacle here being the uterine or vaginal parietes, the head is driven through them at the weakest part. They offer the less resistance, probably, from the woman having generally borne several children. In one of Dr. Clarke's cases, the antero-posterior diameter of the upper outlet measured but 3 inches; in two others, 3½. In case 18 of Dr. Douglas, the pelvis measured but two inches antero-posteriorly; and in another case (20) there was a bony ridge at the top of the symphysis pubis, to which the rent corresponded. In one of Dr. Ramsbotham's cases, the antero-posterior diameter was only 2 inches; in another 3 inches; and a third had always had difficult labors previously. In one of Dr. Collins' cases, the same diameter measured 2½ inches; and in several it appeared narrower than usual. Dr. F. Ramsbotham has never known a case in which there was not some contraction. Dr. Roberton collected 37 cases from various sources, in which there was diminuation of the pelvic diameters*. Various explanations have been given of the *modus operandi* of this contraction, Dewees attributing the rupture to inflammation and gangrene, Denman to the effect of pressure and attrition, Dr. Burns to pressure of the cervix between the head and the pelvis, and Dr. Ramsbotham to thinning from pressure and inflammation. However this cause may act, it doubtless gives rise more frequently to rupture of the cervix than of any other part. I quite agree with the opinion of Drs. Hardy and M'Clintock, that the effect is more likely to be produced when the amount is slight than when it is excessive. The sex of the child will contribute to the increase of this disproportion —male children have the larger heads. Now, of the 20 cases mentioned by Doctor M'Keever, 15 children were males, and 5 females; and of Dr. Collins' 34 cases, 23 were males. This result of an unusual size of the child's head is still more remarkable when the head is dropsical, as in the cases related by Drs. Campbell, Collins, Lord, Ramsbotham, Chance, &c.†

It occurs at all ages; but the proportional frequency is greater above 30 years of age than previously.

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* Phys. and Diseases of Women, and on Midwifery, p. 292.

† Trask's Essay: American Journal of Medicine, January, 1848.

Dr. Collins found	1	patient of	the age of	16	years.
	1	„	„	21	„
	1	„	„	24	„
	3	„	„	25	„
	2	„	„	26	„
	1	„	„	27	„
	3	„	„	28	„
	1	„	„	29	„
	7	„	„	30	„
	2	„	„	32	„
	1	„	„	33	„
	1	„	„	34	„
	3	„	„	35	„
	5	„	„	36	„
	1	„	„	37	„
	1	„	„	40	„

c. The oblique position of the uterus, or of the child's head at the brim, has been assigned as a cause, from its directing the force of the child's head against the side of the cervix uteri and vagina.

d. Some one of the tissues of the uterus may give way previous to or during labor; perhaps from previous disease; perhaps from some peculiarity of structure; and in some cases, without any appreciable cause. Sir Charles M. Clarke published a case, in which the peritoneal covering of the uterus alone was torn; and similar cases have been since recorded by Mr. Partridge, Mr. White, Dr. Ramsbotham, Mr. Chatto, and Dr. Davis. Dr. Collins has also met with a case of this kind, and others are on record. Dr. Radford published two cases in which the muscular coat was torn, the serous membrane remaining uninjured. Dr. Ramsbotham met with a case nearly similar; and Dr. Collins met with nine such cases. Duparcque relates one, and Velpeau two. Many years ago, I assisted at the *post mortem* examination of a patient, who was attacked with symptoms of ruptured uterus; sudden pain in the abdomen, vomiting, collapse, &c.; and who died in a few hours. We found no rupture in any part, but extensive effusion of blood beneath the peritoneum, covering the uterus, and lining the iliac fossæ; the result, probably, of a ruptured blood-vessel. There were also twelve or fourteen ounces of sero-sanguineous fluid in the peritoneal cavity. Though the extent of mischief is less in these cases, yet they are equally fatal.

e. Violence in turning the child may rupture the uterus, and it may accompany this operation, in certain states of the cervix, without any fault of the operator.

f. Rigidity of the os uteri, or imperforation, may occasion laceration. There are several cases on record where the cervix uteri has been torn completely off during labor. Steidele, Mr. Scott of Norwich, Dr. E. Kennedy, Dr. Power, and Dr. Lever, have each recorded such cases, and I have seen one myself. It appears to be the result of pressure at the brim of the pelvis, rendering the texture of the cervix soft and easily torn.

The duration of the labor has been supposed to influence the occurrence of rupture; but Dr. Trask has shown that this is not the case. In 89 cases, 48 were not more than 12 hours in labor; and the average duration of the whole was rather more than 21 hours. In 38 cases the pains were moderate, in 63 they were severe; and in the majority of Dr. Roberton's cases the labor was under 13 hours.

g. Occlusion, partial or complete, of the vagina has in many cases occasioned rupture of the cervix and body of the uterus, as I have shown elsewhere.

h. It may be caused or aided by the peculiar presentation; but this cannot be very often the case, as, out of 303 cases collected by Dr. Trask, there were only 16 presentations of the shoulder, arm, or side, and 2 of the breech; the remainder were head presentations.

Among the *direct causes* are enumerated blows, falls, anger, convulsions, excessive movements of the child, over-distension, &c. In one case, M. Malgaigne attributed it to the mal-administration of ergot of rye. Dr. Trask gives four such cases.

706. 3. *At an advanced period of life.* The structure of the cervix uteri is much changed in old age; it becomes close and dense, resembling cartilage, and the canal through it is always reduced in size, and sometimes obliterated. When the outlet for the escape of the uterine mucus is thus closed, it accumulates; and if the quantity be sufficient to distend the cavity, a process of thinning or absorption commences in some part of the walls of the uterus, and proceeds until an opening is made into the peritoneal sac. The same process will take place with any other fluid thus deprived of exit. Duparcque quotes two cases of the kind. In some few cases a similar process has occurred during middle life, as in the case related by Dr. Guzzo of Naples, whose patient was only æt. 38.*

707. *Pathology.*—If the laceration be the result of disease, it may take place at any part of the organ; the body, fundus, or cervix; and it will generally be found to correspond to the situation of the pain felt by the patient previously. The edges of the rent exhibit marks of disease, the tissue is thinned, softened, and pulpy, breaking down easily under the finger. The color may be changed to a deep red or brown color, and occasionally the odour is offensive.

When the laceration is the result of mechanical causes, it generally takes place near the cervix, and involves both the uterus and vagina. It may run along the anterior or posterior surface of the uterus, or at one side. In 6 of Dr. Jos. Clarke's cases, it was on the anterior surface, and in 1, posteriorly. In Drs. Sims' and Hooper's cases, it

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* Brit. and For. Med. Chir. Review, Oct. 1848.

was anteriorly; in Mr. Birch's posteriorly; and in Mr. Cathrall's case, on the right side. In 3 of Dr. Ramsbotham's cases, it was posteriorly; in 1 along the right side; and in another, along the left. Of 23 cases, Dr. Collins found 1 on the right, and 1 on the left side—11 posteriorly, and 10 anteriorly. In Dr. Trask's extensive collection of cases, we find that of those which occurred during gestation, in 7 the laceration was of the fundus, in 1 of the posterior part, in 2 of the anterior part, in 2 of the right side, in 1 of the left side, in 3 of the cervix and vagina, in 1 from cervix to fundus, in 1 of cervix, body, and bladder, in 2 of the posterior and inferior parts, in 1 the lower segment of the womb was torn off. Of those which occurred during parturition, 11 were of the fundus, 13 of the posterior part, 14 of the anterior part, 8 of the right side, 7 of the left side, 2 of the vagina, 15 from the cervix to fundus, 2 involving the bladder, 47 at the cervix and involving the vagina and separation from the vagina, 2 of the body, 7 transverse. Thus, of the total occurring during gestation, 13 were of the fundus and body, and 8 of the cervix: of the total occurring during parturition, 63 were of the body and fundus, and 64 of the cervix, involving, more or less, the body of the uterus and the vagina.* In 1 of Dr. Roberton's cases, the cervix was separated from the vagina, except a shred, in 8 the laceration was anterior, in 11 posterior, in 5 lateral, in 3 antero-lateral, and in 3 postero-lateral.†

The direction of the rent may be nearly perpendicular, or inclining to one or other side, or running transversely. In these cases the structure of the uterus is scarcely altered; its texture is firm, and its color natural, except where the blood is ecchymosed. The edges of the rent are jagged and uneven. Occasionally, but very rarely, the bladder has also been torn.‡

When the serous membrane alone is injured, we find numerous small incisions, resembling scarifications, from a quarter to half an inch in length, and one or two lines in depth, or a smaller number of larger lacerations. They are almost always curved, with the convex part towards the fundus, and may be situated on the anterior or posterior wall of the organ. In all the cases hitherto mentioned, more or less blood is found effused in the peritoneal sac, and in many, the usual products of peritonitis.

When the muscular structure alone is injured, it may present either a simple solution of continuity, or evidences of disease. Blood may be found in the cavity of the uterus, and the serous membrane may be inflamed, with the usual results.

The cervix uteri, when separated, has generally a bruised appearance, is swollen, and of a red color. The edges are ragged and uneven. The canal of the vagina is rendered continuous with that of the uterus, but the connexion between them is not compromised.

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* American Journal of Med. Science, April, 1848, p. 393.

† Phys. and Dis. of Women and Midwifery, p. 312.

‡ Archives Gen. de Med. vol. xviii. p. 109. Laennec Piquet, These. Paris, 1822.

When the uterus of an old person is ruptured, from the cause assigned, we shall discover a perforation in some part of it, with a considerable thinning of the walls around it.

In all these cases, with the exception of those in which the cervix uteri is torn off, or the muscular structure alone injured, we find marks of extensive peritonitis, unless the patient die of the shock.

708. *Symptoms.*—These vary very slightly, whether the uterus be torn completely through, or whether the peritoneal or muscular tissues alone be injured, or whether the vagina be alone damaged.

Certain authors have pointed out what they deem premonitory symptoms; but these are exceedingly ambiguous. The circumstances which may justly excite our fears are, previous difficult labors, the occurrence of partial hysteritis during gestation; and, during labor, the coincidence of violent labor pains with a narrow pelvis.

Rupture of the uterus and vagina is marked with a sudden, acute, and intolerable pain, like a cramp; a sense of some part bursting, giving way, or tearing, with an audible noise, according to the testimony of some patients; the suspension of the labor pains; recession of the head generally; hemorrhage from the vagina; and a rapidly succeeding state of collapse. Of these symptoms, the excruciating pain and collapse are the most constant, as in some cases the bursting or tearing is not felt; and when only one tissue suffers, the labor may continue, and there may be no hemorrhage. The pain continues, with little or no intermission. The stomach is disturbed, and vomiting ensues, at first of the contents of the stomach, then of a greenish, and ultimately of a black matter—the "coffee-ground vomit." The countenance is pale and ghastly, with an expression of intense suffering and anxiety; the surface is cold and clammy. The pulse is very rapid, small, feeble, and fluttering, the respiration hurried and difficult; and the patient requires to be raised in bed. There is almost always a discharge of blood from the vagina; sometimes slight, and at others so considerable as to cause death.

We know, also, from *post-mortem* examination, that in most cases, hemorrhage takes place into the abdominal cavity; and some authors have attributed the state of collapse to this cause; but though it may aggravate the collapse, we know that this is present when there is no internal hemorrhage. When the rupture is complete the expulsive efforts cease, because the child escapes, partially or wholly from the cavity of the uterus into the abdominal cavity, where it may be felt by the hand through the abdominal parietes. The presentation, which was probably within reach before the accident, cannot now be ascertained by the finger.

When the rupture is complete, a loop of intestine may escape through it, and give rise to the symptoms of strangulated hernia. Duparcque quotes three cases of this kind from Remigius, Percy, and Beauregard. Dr. Trask collected sixteen cases in which this occurred. A case is related by Dr. M'Keever, where a yard and a half of intestine became strangulated, and sloughed off.

The state of collapse may continue for some time, if it do not prove immediately fatal; but at length a certain amount of reaction takes place; inflammation sets in, and the patient exhibits all the symptoms of peritonitis—acute pain, exquisite tenderness of the abdomen on pressure, tympanites, decubitus on the back, with the knees drawn up, quick, small, hard pulse, hurried respiration, &c. &c.

When the vagina alone is seriously ruptured, the sudden pain is absent, but the collapse is more or less complete, and although the regular labor pains become feeble or cease, the uterine action is not paralysed, as in rupture of the uterine substance; but if we aid in the delivery we shall find the uterus assist in expelling the child and placenta. There will, of course, be no recession, but there will be hemorrhage, external or internal. In a case which came under my observation, the collapse was not complete, but sufficient to indicate some grievous organic injury; the patient was then delivered by the forceps, during which operation the uterus acted firmly, and afterwards expelled the placenta without assistance. The external hemorrhage was very moderate, but the collapse, pallor, quick weak pulse, continued for four or five days, and then suddenly increased, and ended in death. On examination *post mortem*, we found that the vagina had been ruptured at its junction with the uterus, that a large sac filled with blood had thus been formed, covered at its upper part only by the peritoneum, and that this covering had given way, probably at the time when the collapse became complete, and that a large quantity of blood had then been effused into the peritoneum, but that inflammation had not set in, evidently for want of time. M. Danyau has published* a case of rupture of the vagina only, which he saw, and which was characterized by cessation of pains, recession of the head, abdominal tenderness, collapse, &c. but the child had escaped into the abdomen through the rent. He refers to seventeen cases of this kind, four of which, those of Ross, Douglas, Smith, and his own, recovered. In none was gastrotomy performed.

709. *Terminations.*—The patient may die of the shock a few minutes or hours after the accident, or after delivery; or she may survive the shock, and die of the peritonitis; or lastly, she may be carried off by secondary diseases, as sub-peritoneal, or lumbar abscess, &c.†

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* Brit. and Foreign Med. Review, April, 1852, from Mém. de la Soc. de Chirurg. vol. ii.

† Burns' Midwifery, pp. 528, 531. Denman's Introduction, p. 261.

Of Dr. Jos. Clarke's patients—
1 died undelivered.
1 ,, in 4 hours.
1 ,, in 20 ,,
2 ,, in 24 ,,
1 ,, in 30 ,,
Of Dr. Ramsbotham's—
3 died shortly after delivery.
2 in 1 hour ,,
1 in 3 days ,,
Of Dr. Collins' cases—
4 women died immediately after delivery.
1 ,, in 2 hours ,,
3 ,, in 4 ,, ,,
1 ,, in 10 ,, ,,
2 ,, in 14 ,, ,,
1 ,, in 17 ,, ,,
1 ,, in 24 ,, ,,
1 ,, in 25 ,, ,,
1 ,, in 30 ,, ,,
4 ,, on the 2nd day ,,
1 ,, 3rd ,, ,,
4 ,, 4th ,, ,,
1 ,, 5th ,, ,,
2 ,, 8th ,, ,,
1 ,, 9th ,, ,,
1 ,, 11th ,, ,,
1 ,, 14th ,, ,,
1 ,, 24th ,, ,,

In a case under my care, the patient died in five minutes undelivered.

In by far the greater number of cases, the accident proves fatal.

Of Dr. Smellie's	3 cases,	2 died.
Dr. Jos. Clarke's	8 ,,	7 ,,
Dr. Merriman's	1 ,,	1 ,,
Dr. M'Keever's	11 ,,	9 ,,
Dr. Ramsbotham's	13 ,,	10 ,,
Dr. Collins'	34 ,,	32 ,,
Dr. Beatty's	1 ,,	1 ,,
Drs. M'Clintock and Hardy's	9 ,,	9 ,,

710. Some cases, however, are on record where the patient recovered. Heister relates a case mentioned to him by Rungius; and Spiering, one cured by Forquosa. M. Peu,[*] Dr. Hamilton,[†] Dr. James Hamilton,[‡]

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[*] Pratique des Accouchemens, p. 341.

[†] Outlines of Midwifery.

[‡] Select Cases in Midwifery, p. 138.

Dr. Jos. Clarke,[*] Dr. Douglas,[†] Dr. Labatt,[‡] Dr. Frizell,[§] Mr. Ross,[‖] Mr. Kite,[¶] Mr. Powell,[**] Mr. Birch,[††] Mr. Smith,[‡‡] Mr. MacIntyre,[§§] Dr. Hendrie,[‖‖] Mr. Brook,[¶¶] Dr. Davis,[***] Mr. Church,[†††] M. Stobo,[‡‡‡] have each recorded one case of cure. Dr. M'Keever and Dr. Collins have each related two, and Dr. Ramsbotham three cases. Duparcque has collected four from French authorities. Osiander states that he has known several cases of recovery. Velpeau quotes several cases.

There are a very few instances on record where the patient has recovered, although the fœtus remained in the peritoneal cavity.

In cases of intestitial fœtation also, the patient has sometimes survived both shock and inflammation.

711. *Diagnosis.*—The sudden acute pain, the cessation of labor, the collapse, and the recession of the child, will render it easy to recognise the case.

But when the rupture is partial, it may be more difficult, and we must rely mainly upon the sudden pain and collapse for our diagnosis. The occurrence of peritonitis subsequently, will serve to clear up the difficulty.

In a very able paper in the Dublin Journal, Dr. M'Clintcok has shown that the life or death of the child is a most valuable diagnostic sign. In cases of laceration the child dies almost immediately.

The sudden occurrence of peritonitis in old women may excite a suspicion of its origin, but it will not be easy to arrive at certainty.

712. *Prognosis.*—From the details already given, it is almost unnecessary to state that the prognosis is always grave. So very few are saved that there is but faint hope of the recovery of the patient.

713. *Treatment.*—The first question which presents itself, when a rupture of the uterus is recognised, is, "*shall the patient be delivered at once, or left to nature?*" When the os uteri is undilated, instant

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[*] Trans. of Association, vol. i.

[†] Essay on Ruptures of the Uterus, p. 7.

[‡] Dublin Med. Essays, p. 343.

[§] Trans. of Association, vol. ii. p. 15.

[‖] Annals of Medicine, vol. iii. p. 377.

[¶] Mem. of Med Soc. vol. iv. p. 253.

[**] Med. Chir. Trans. vol. xii. p. 537.

[††] Ibid. vol. xiii. p. 357.

[††] Ibid. vol. xiii. p. 373.

[§§] Med. Gazette, vol. vii. p. 9.

[‖‖] American Journ. of Med. Science, vol. vi. p. 351.

[¶¶] Med. Gazette, Jan. 17, 1829.

[***] Obstetric Medicine, vol. ii. p. 1070.

[†††] Lancet, May 19th, 1849.

[‡‡‡] Med. Times, April 6th, 1850.

delivery may be impossible: but in all cases where it is possible, the testimony of experience is in favor of immediate delivery.

Dr. W. Hunter and Dr. Garthshore advised that the case should be left to nature; and subsequent to the publication of his introduction to Midwifery, Dr. Denman came to the same conclusion. The evidence of facts, however, must be allowed to counterbalance even such illustrious names; and that evidence is unquestionably in favor of delivery.

Dr. Trask's researches confirm the propriety of immediate delivery, for of those who recovered, the average time that elapsed between the occurrence of rupture and delivery was under five hours, whilst in those that died it was over five hours. Of Dr. Trask's cases, 154 were delivered by artificial means, 27 died, 57 survived; of 89 abandoned undelivered, 65 died, 24 survived; of 31 delivered by natural efforts, 20 died and 11 survived; of 6 in whom artificial delivery was tried and failed, all died undelivered. Thus, a comparison of those delivered by art with those abandoned undelivered, gives 37 of the former saved to 27 of the latter in the hundred. But this is not all, for we find that the average continuance of life after rupture in those delivered is twenty-two hours, and in those undelivered, only nine hours.

714. The *mode* of delivery will depend altogether upon the circumstances of the case.

1. If the head have not receded, and be within reach, or be already in the pelvis, it will be well to deliver with the forceps, if possible; but if not, we must have recourse to the perforator, and with the less hesitation, as Drs. M'Clintock and Hardy have shown that the death of the fœtus almost instantly follows the occurrence of rupture.

2. If the child have escaped into the cavity of the abdomen, or if the brim of the pelvis be much contracted, the hand must be introduced into the vagina, and, if practicable, passed through the laceration, and the feet seized and brought down, so that the child may be extracted through the rent. Care must be taken to avoid dragging down or injuring the intestine, in case it should have prolapsed. The placenta is then to be removed, the vagina cleansed, &c. In all these cases the child is born dead.

3. If the uterus have contracted very firmly, it may be impossible to pass the hand through the rent; or the pelvis may be too narrow to admit of the child being extracted footling, or even of the passage of the hand. In such cases we are advised to perform the Cæsarian section, and extract the child and secundines through the abdominal parietes. Successful cases are related by Thibault des Bois, Lassus, Haden, Baudelocque, Latouche and Jopel, Lambron, Glodat, &c. To these may be added cases related by the following:—M M. Coquin,*

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* Bulletin de la Faculté, 1812, p. 86.

Sommer,[*] Ceconi,[†] Ruth,[‡] Rust,[§] Gais, Naegelè, Weinhardt,[‖] Heim.[¶] Busch, Demay,[**] Lechaptois et Lair,[††] Velpeau.[‡‡]

4. This will be the only mode of delivery, in ruptures occurring during gestation, before labor has commenced.

715. During the stage of collapse, it may be necessary to give stimulants, ammonia, camphor, musk, wine, &c; but this should be done with great judgment, so as just to attain our object, and no more; bearing in mind that whilst we may be relieving the collapse, we may be aggravating the reaction, and increasing the danger at that period. A large dose of opium may be given after the delivery.

When inflammation sets in, of course the treatment must be actively antiphlogistic. Three or four dozen leeches should be applied over the abdomen, and repeated, if necessary. Large bran poultices are useful, and hip-baths are recommended. Calomel and opium, or opium alone, is the most valuable remedy we possess. It should be given in large doses, or in smaller ones more frequently, so as to influence the system rapidly.

If the rupture have arisen from the narrowness of the upper outlet of the pelvis, and the patient recover, and again become pregnant, premature labor should be induced, at such a period of gestation as will allow the fœtus to pass without difficulty. It is of course desirable that the operation should, if possible, be deferred until the fœtus is "viable;" but I do not think this a *sine qua non*, as it may be worth while sacrificing the child to save the mother. Dr. Collins relates a successful case of this kind, in which the patient was delivered the first time after the rupture by artificial premature labor, and afterwards naturally. In Dr. Douglas's case the patient was delivered by turning, the first pregnancy after the accident, and naturally the second. It would, however, be much wiser for the patient to avoid the risk of a subsequent delivery.

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[*] Bulletin de la Faculté, 1812, p. 86.

[†] Bulletin de Ferussac, vol. v. p. 47.

[‡] Ibid. vol. vi. p. 280.

[§] Luroth, ibid. vol. xix. p. 85.

[‖] Ibid.

[¶] Ibid.

[**] Journal Gén. vol. v. p. 58.

[††] Ibid. vol. i. 187.

[‡‡] Traitè d'Accouch. p. 355.

CHAPTER VII.

VESICO-VAGINAL AND RECTO-VAGINAL FISTULÆ.

716.—PERFORATION of the coats of the vagina, anteriorly or posteriorly, with the subjacent organs, the bladder or rectum, is not very rare, and is one of the most distressing and intolerable accidents to which females are subject; and the more so, as a cure is but seldom effected. Indeed, vesico-vaginal fistula has long been considered as one of the *opprobria* of surgery; and, with some exceptions, of late years the cure has been given up as hopeless.

I. VESICO-VAGINAL FISTULA.—Vesico-vaginal fistulæ are more frequent than perforations of the rectum; they are generally found separately, but in some cases co-exist. A case was received into the Meath Hospital some years ago, in which the bladder and rectum were both perforated, the perineum lacerated, the canal of the vagina distorted by cicatrices, and closed at its upper part by adhesions.

Strictly speaking, we can hardly consider this form of laceration a complication of labor, it is rather one of its sequelæ, except in those unfortunate cases where the injury is inflicted during extraction of the child, or the urine is allowed so to accumulate as to expose the bladder to rupture from the pressure of the child's head.

717. *Causes.*—Various *causes* may give rise to this accident.

1. Either wall of the vagina may be wounded, accidentally or on purpose, by cutting instruments. Such has been the result of criminal attempts to procure abortion. In these cases, however, a cure often takes place spontaneously.

2. The long retention of a pessary in the vagina may give rise to inflammation and ulceration of the vaginal tunics, and ultimately to perforation of the bladder or rectum. This however, but seldom occurs, and then only in aged females, for whom little can be done in the way of cure.

3. In powerless or difficult labors, where the head of the child is long retained in the pelvis, or where, by its size, it makes great pressure, the vagina may be the seat of inflammation, ulceration, and perforation, involving either of the subjacent organs, but much more frequently the bladder. In these cases, the vagina is frequently narrowed, or deformed by irregular, circular, or spiral cicatrices, rendering the detection of the fistula somewhat difficult.

4. A maladroit use of instruments may occasion this injury. Cases of both kinds of fistula could easily be adduced from authors, as the result of carelessness or incompetence of the operator.

5. Retention of urine during labor will generally involve more or less pressure upon the bladder; if within certain limits, perforation will be the result of subsequent inflammation; if the distension be excessive, and the bladder protrude into the pelvis, so as to be pushed before it by the descending head of the infant, then, most probably, rupture of the bladder and vagina will take place.

6. The bladder is occasionally lacerated in rupture of the uterus though there may not necessarily be a perforation of the vagina.*

7. In corroding ulcer and cancer of the uterus, the ulceration may involve either or both walls of the uterus, and perforate the bladder or rectum, or both. For these cases, however, nothing curative can be attempted.

8. A pelvic abscess may open into the bladder, uterus, or rectum, or into more than one of these cavities, and the opening may remain fistulous, as in the cases published by Dr. Simpson.†

718. The *situation* of the perforation is of great importance in the cure of vesico-vaginal fistulæ. It may be at the junction of the urethra with the bladder—in the neck of the bladder—or in some part of its body. The opening may be more or less circular in form, or it may be a rent running longitudinally from before backwards or transversely. The curability of the fistula will depend in a great degree, upon its being attended with loss of substance or not.

719. *Symptoms.*—These depend primarily upon the cause of the fistula, and will vary according to it; and *secondarily*, upon the escape of the contents of the wounded organ. Whichever organ be wounded, the result is inexpressible distress to the patient. The escape of urine is attended with so marked and irrepressible an odour, that the patient is placed "*hors de societé*." Obliged to confine herself to her own room, she finds herself an object of disgust to her dearest friends, and even to her attendants. She lives the life of a recluse, without the comforts of it, or even the consolation of its being voluntary. It is scarcely possible to conceive an object more loudly calling for our pity, and strenuous exertions to mitigate, if not remove, the evils of her melancholy condition. In addition to the offensive smell, the escape of the urine gives rise to the excoriation of the vagina, external parts, and thighs. The flow of urine is constant when the neck of the bladder is the seat of the injury, and at intervals when the wound is situated more posteriorly.

In all cases a careful examination should be made, by passing a catheter into the bladder, and a finger into the vagina; then placing the points of both in apposition, the whole posterior surface of the bladder should be passed over, and carefully examined. At some one point the finger and catheter will come in contact; the catheter may then be passed into the vagina, and the extent of the damage ascertained. In many cases the speculum will afford us an accurate view of the opening, and enable us to ascertain not merely the extent of it, but the condition of its edges. When the vagina is not cicatrised, it is not generally difficult to obtain the information we desire; but when deformed by cicatrices, it will require both care and patience.

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* Blundell, Dis. of Women, p. 69.

† Ed. Monthly Journal, Dec. 1852. Obstetric Works, p. 232.

In the majority of cases, little is to be hoped from the efforts of nature; the borders of the wound become thickened and callous, and the case remains stationary during the patient's life. In some few cases, however, the result is more favorable; as, for instance, when the wound has been inflicted by a sharp instrument. In two cases under my care, where the wound was precisely at the insertion of the urethra into the bladder, and was followed at first by absolute incontinence of urine, a cure was obtained naturally. The wound slightly contracted, without healing, and the muscular fibres of the bladder assumed the office of a sphincter muscle, and closed the orifice, so that the patient could retain urine almost as long as previous to the accident, and could evacuate it at pleasure.

720. *Treatment.*—We cannot wonder that many methods should have been tried to remedy so offensive an accident, nor that so few should have succeeded, when we recollect the obstacle presented by the constant passage of urine. The probability of relief depends partly upon the situation, and partly upon the character of the fistula. When it is far back in the posterior wall of the bladder, and when there has been much loss of substance, a cure is seldom obtained; but when near the neck, we may sometimes succeed.

I shall now notice the principal plans which have been proposed.

1. *Dessault's method*,* as it has been called, consisted in maintaining a catheter constantly in the urethra, so as to afford an outlet for the urine, and at the same time preventing its escape, by plugging the vagina. J. Cloquet has added a kind of syphon to the catheter. Chopart succeeded in curing a case by this means, where the wound was in the neck; but he failed in one where it was in the body of the viscus. Peu,† S. Cooper, and Blundell, each relate a case of cure.

There is no doubt that much relief may occasionally be derived from this plan. I had a case in which the patient was ultimately enabled to retain her urine for two hours, without dribbling, though the wound did not entirely close; but in some of the cases on record the wound completely healed. There is this objection to the plan, however, that in many instances the patients cannot bear the

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* Ouvres Chirurgicales, vol. iii. p. 299.

† Prat. des Accouchemens, p. 384.

substance, it affords no chance. I have seen
However, Dupuytren, and Delpech, and Baravero, are said
thus cured several cases.

The best mode of applying the caustic is by means of a fenestrated speculum, which will leave the upper surface of the vaginal canal exposed, or by Lallemand's "porte caustique." The caustic should be lightly applied, as the object is not to produce a slough, but merely a contraction.

722. 3. *Actual Cautery.*—If the loss of substance be slight, and the wound small, there is no doubt that a cure may be obtained by this means.† Dupuytren, who first proposed it, cured several;‡ Dr. M'Dowell, one;§ Dr. Kennedy, two;‖ Mr. Liston, four or five;¶ and others have been equally successful. Dr. Colles has tried it successfully where the orifice was not too large, but without benefit where the fistula was extensive. I witnessed a successful case treated by Dr. O'Ferrall, of St. Vincent's Hospital. I also tried it in a case under my own care, but it failed, as I anticipated, on account of the large size of the opening.

The facility with which the operation is performed will depend upon the situation of the fistula being more or less anterior. The patient may be placed upon her back, as for lithotomy, or upon her knees and elbows. Dr. Kennedy adopted the former; but I have found the latter far more convenient, and I think less offensive to the patient's feelings. The light can reach the part more readily, and the position of the operator is more convenient. The patient must be placed before a window, or a candle must be used. The next point is to dilate the vagina, so as to ensure access to the wound, without contact with the vagina. This may be done by three brazen spatulæ, sufficiently long to reach beyond the rent, and broad enough to protect the vagina—or by a double-bladed speculum. I have also used, with great facility
safety, a metal cylinder, closed at its extremity, but with an

to the fistula. A catheter should be passed into the bladder, and through the fistula, to guide the operator, and to keep the mucous membrane of the bladder from protruding. Having these preliminaries adjusted, the cauterising iron, at a white heat, should be *lightly* applied round the *edges* of the wound, and withdrawn. The dilators or speculum, may then be removed, and the patient placed in bed. If it do not occasion irritation, it will be advantageous to allow the catheter to remain in the bladder. An improvement upon the cauterising iron has been lately introduced by Mr. Marshall, who has employed galvanism to produce sufficient heat. The instrument being applied before the circuit is completed, the operation is quicker and yet more exact.[*] Mr. Marshall has found it very successful. The patient should be kept quiet, and the bowels freed by medicine. A certain amount of local irritation generally succeeds, which subsides in the course of a few days; after which the operation may be repeated as often as necessary. The operation should not produce a slough, or the patient will not be benefited, but merely a corrugation or shrivelling of the edges. If we thus reduce the wound, so as to bring the edges in contact, adhesion may then take place, and the patient be cured. But it must in candour be confessed, that whilst it is not difficult or uncommon to benefit the patient to a great extent, a complete closure of the fistula is very rare.

723. 4. The *Suture.*—This method is said to have been invented by Roonhuysen; at all events, it has been long known and practised by the profession, with varying results.

Of late years it has been repeatedly performed; with success by Dieffenbach, Blandin, Chanam, and Jobert;[†] by Sanson, who failed; Deyber, who nearly, if not quite, cured his patient; Malagodi of Bologna, who has published his successful case; by MM. Lallemand, Dugès, and Roux, who failed; and by M. Naegelè. Mr. Earle cured three cases by this means. Mr. Hobart, of Cork, formerly published a successful case,[‡] and since states that he has perfectly cured at least ten by the suture. He says: "In reply to your letter, I have only to say, that many cases of vesico-vaginal fistula came before me within the last fifteen years, many of whom were cured, some relieved, and others not at all benefited. I think there were from ten to fifteen *perfectly* cured, and all by the same means." A successful case is related in the American Medical Recorder.[§] Dr. Evory Kennedy has succeeded in diminishing the orifice several times; and in one case in which the twisted suture, was used, the lessened the orifice, he has never

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[*] Med. Times and Gazette, July 2, 1853.

[†] Lancet, May 12th, 1838.

[‡] London Med. and Phys. Journal, vol. v.

[§] April, 1826, p. 410.

and this was the result under very favorable circumstances. He has also seen very unpleasant consequences result from the operation: hemorrhage (the edges of the fistula having been removed by the knife) to a great amount; fever, hectic, &c. I have seen the operation performed very carefully without success.

The operation may be performed in the following manner:—The edges of the wound are to be renewed, either by paring with a knife or the application of caustic; the latter has the advantage of being less liable to occasion subsequent hemorrhage. When this is accomplished, the patient is to be placed on her back or knees, and the vagina to be dilated. If the wound be near the insertion of the urethra, or can be brought down by passing a catheter through it, a curved needle (rather shorter than usual) may easily be passed through the opposite edges. If the wound be further back, an instrument must be used to pass the suture. Mr. Hobert fixed a curved needle at the end of a canula, by means of a piece of wire with a hook at the end of it, running through the canula. The needle is passed through the hook, and held firm by it. M. Naegelè has contrived a needle, with a long handle, for passing the ligature. He has also invented a species of scissors, for the purpose of paring the edges. Mr. Beaumont has described an ingenious instrument for passing the sutures: "The instrument is in the form of a forceps, one blade of which is a needle, curved towards its point, close to which is its eye. The other blade is broader on its opposing surface, less curved, and at its extremity has a hole through which the needle-point, and just the loop of the ligature, are carried, when the blades are closed. On the back of the broad blade is a spring, through which, when pushed forwards, the blades being previously closed, catches the ligature on its point, and holds it. In using this instrument, the operator has only to seize in its points, in the same manner as he would with a pair of

border of the fistulous opening; the blades should then be pushed forwards, by which the ligature is caught, and held at its pointing. The blades are then to be opened, and gently withdrawn, leaving a double ligature passed through opposite points of the fistulous aperture, so that a common or quilled suture may afterwards be formed."* Mr. B. used it once with a quilled suture.

The instruments I have used were chiefly copied from some lent me by Dr. Evory Kennedy, with the addition of one I had made for transverse lacerations. They consist of an instrument for paring the edges of the fistula, a needle for a fissure running antero-posteriorly, a needle for transverse fissures, and a hook for disengaging the ligature, after it has been passed through the edges of the wound. When the twisted suture is used, short curved needles may be employed; it will also be well to keep them in for some time. In Dr. Kennedy's case they were retained about three weeks.

Dr. Marion Sims prefers a metallic suture, which, being passed through the edges of the wound, and then through a little clamp on either side, is tightened by a split shot. Dr. Druitt, of London, has tried this method, and speaks of it with approbation.† Many other modifications of the manner of applying the ligature (such as Schreger's, Ehrmann's, Brown's, &c.) might be enumerated, but for them I must refer my readers to Killian's and Brown's works.

Dr. Maurice Collis has proposed and tried successfully the separation of the mucous membrane surrounding the opening, to the depth of a quarter of an inch, and inserting the ligatures through the flaps. The new surfaces then laid bare, are everted, and brought into contact. In two cases, perfect union followed. He used the quilled suture, and renewed the ligatures on the fifth day.

It will generally be necessary to pass three sutures, none of which should be tightened till all are inserted, and, when tied, the ends should be cut off. The tightening is easily accomplished with two pair of dressing forceps. M. Jobert has found it advantageous to make an incision through the coats of the vagina, either longitudinally, or anterior to the cervix uteri, or at its orifice semicircularly, so as to diminish the strain upon the ligatures.

When this is done, the dilator, or speculum may be removed, and the patient put to bed, and opium given to confine the bowels. There is considerable soreness and pain complained of, which may be relieved by vaginal injections of warm water twice a day. When the edges of the wound have been pared, we must be on the watch against hemorrhage. Should it occur, cold injections may be thrown up, or a plug inserted, and, if necessary, the sutures divided. The sutures generally come away about the eighth or tenth day, and we are then able to ascertain the result of our opera-

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* Med. Gazette, Dec. 3rd, 1836, p. 355.

† Med. Times and Gazette, Dec. 18th, 1852, p. 633.

retained in apposition, and the
M. Lallemand has also invented one, which he calls a "sonde-erigne," by which a similar effect is produced,‡ but not having seen the instrument, I am unable to give a description of it. He has cured one case with it, partially cured another, but failed twice. MM. Langier and Lewziski have also contrived similar instruments.

724. 5. Dr. Blundell saw a fistula in the neck of the bladder, near the urethra, cured by laying open the urethra to the rent, and then healing it up, as is done in the ordinary fistula. Mr. Porter, of the Meath Hospital, performed a similar operation, which terminated successfully.

725. 6. "*Elythro-plastie.*"—This name is given to the operation by which a portion of the integument is taken from a neighbouring part, and applied to the vesico-vaginal fistula, and retained by sutures; the old connexion being maintained until union has taken place. It is exactly similar to the rhino-plastic operation for repairing noses. It was suggested by Velpeau, but first practised by Jobert. Of his four operations, one patient was cured at once, one by a second operation, one died, and with one it failed. M. Roux did not succeed with it. I am not aware that any other surgeon has tried it.

726. 7. *Closure of the Vagina.*—When using the caustic for the cure of vesico-vaginal fistula, in the year 1833, M. Vidal de Casis chanced to touch the vaginal mucous membrane with it; this caused considerable inflammation, and on making an examination subsequently, he found the sides of the vagina adherent. The patient also observed that the dribbling of urine had entirely ceased. Unfortunately, a careless examination was afterwards made, and these adhesions were destroyed. But the hint was not thrown away, for on the next occasion, in the same year, M. Vidal de Cassis attempted to relieve the fistula in this way, and was perfectly successful, until the clumsiness of an assistant destroyed these adhesions also.

exciting inflammation, though adhesion may not always take place. I have seen a circle of the mucous membrane removed, and the parts brought together by suture, for the purpose of closing the orifice of the vagina, but union did not take place.

When we have recourse to this method, care should be taken to leave a very minute opening for the escape of the menstrual fluid, if menstruation have not ceased.

727. 8. The *Plug*.—If none of the means hitherto described afford a probability of cure, or fail upon trial, it is at least a comfort to know that we can still remove a portion of the distress caused by this frightful complaint, provided the irritability of the vagina be not too great to bear a plug.* Various cases of relief by this means are on record. Dr. Gooch, in 1814, suggested to Mr. Barnes, of Exeter, the employment of an india-rubber bottle, of sufficient size to fill the vagina, and having upon one side of it a small piece of sponge, to be applied to the fistulous opening. Mr. Barnes used this with great benefit to his patient.† M. Dugès has proposed a similar plan, but the pessary was made of different materials.‡ Dr. Every Kennedy has succeeded in taking casts (with wax) of the vagina, with the fistula, in several cases; and from them he made moulds, and had caoutchouc bottles cast in moulds. These were large enough to fill the vagina, and to close both the fistula and the outer opening, so as entirely to prevent the escape of urine. I have attained the same object by means of a piece of sponge covered with thin bladder. It should be large enough to fill the vagina, and of a suitable shape. A narrow neck, of the dimensions of the vaginal orifice, is to be formed, by wrapping it with twine, which is to be covered with lint. The whole has much the shape of an egg-cup. It should be dipped in oil previous to being used, and then it can easily be introduced, and the stalk filling up the external orifice, no urine can escape. It can be removed and replaced by the patient herself.

Various other suggestions have been made, but either of these plans will relieve the patient from the constant dribbling and offensive odour, and will allow the excoriations to heal.

If the patient cannot pass water with the plug *in situ*, she should learn to withdraw it and re-introduce it herself. Dr. Burns states that "Dr. Balmanno showed me a patient who derived much comfort from having a hollow tin globe, like a pessary, inserted into the vagina. It was perforated at the upper part, like a pepper-box, and from the under a catheter descended, which entered into a flat

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* Davis's Obstetric Med. vol. i. p. 128.

† Med. Chir. Trans. vol. vi. p. 586.

‡ Duparcque: Ruptures de l'Uterus, p. 339,

uterine parietes, without injury to the
and vagina; and the second—*the vesico-utero-vaginal*—in which there is a fistulous communication between the bladder, uterus, and vagina.

The extent of destruction in either case varies very much: there may be a small perforation with smooth edges, a ragged wound, or very extensive destruction of the parts involved.

729. *Causes.*—In the majority of cases, so far as we know, the method of production is mechanical in the first instance. A large fœtal head, a tight pelvis, or a prolonged second stage of labor, may give rise to inflammation and sloughing from pressure, and if the cervix uteri have been brought down before the head into the pelvis, pressure on this part may determine the complication of the uterus with what would otherwise be a simple vesico-vaginal fistula. No doubt that the awkward and violent use of instruments may also inflict this injury.

Dr. Simpson has shown, however, that vesico-uterine, vesico-rectal, and utero-intestinal fistulæ, may be the result of a very different cause —viz. of pelvis abscess opening into the bladder and uterus, the bladder and rectum, or the uterus and some part of the intestinal canal. The cases he relates are very interesting, and that of vesico-uterine fistula the more so, from a case having apparently taken place from spontaneous contraction of the openings.‡

730. *Symptoms.*—Nothing but a *post mortem* examination could have made us fully acquainted with the real nature of vesico-uterine fistulæ. No one could doubt that there was a urinary fistula somewhere, but neither finger nor speculum could detect any, because the vaginal canal was perfect. It is found that the urine escapes continuously when the patient is lying down, less, and at intervals, when sitting and inclining, and still less when standing, which is not the case with any other variety of urinary fistula. With the speculum we may occasionally observe the urine escape through the os uteri, and
an injection be thrown into the bladder, we may

simple vesico-vaginal fistulæ, only that, on examination, we find a greater extent of destruction, the anterior lip of the os uteri being more or less destroyed. The urine escapes in every position, and the catamenia are discharged mixed with the urine.

The *prognosis* is more serious, inasmuch as the uterus has participated in the injury; it is possible in either variety, but especially in the first, that the sloughing may extend so far as to compromise the life of the patient.

731. *Treatment.*—1. *Prophylactic.* It is as yet an unsettled question how far we may be able to prevent so melancholy a consequence of labor. When we recollect that the cause is, first, pressure of the cervix between the head of the child and the symphysis pubis, and secondly, general pressure of the vaginal parietes from the head being too long detained in the pelvic cavity, we cannot doubt that, in some cases at least, we have the remedy in our own hands. If, when the os uteri is dilatable, the anterior lip be gently pushed up above the head during an interval, and maintained there during a pain, it will escape injurious pressure, and this is not difficult to accomplish. Again, a labor prolonged in its second stage, so much as to occasion inflammation and sloughing, will generally be found to have exceeded the period when assistance becomes necessary, and if the forceps be admissible, they will be safer in careful hands than the delay. When the forceps cannot be used, the alternative is either further delay or craniotomy; the former of which may incur the risk of this injury, which should therefore always be taken into consideration in our decision.

732. 2. *Curative: a. Vesico-uterine fistula.* An attempt has been made, by plugging the canal of the cervix uteri, and keeping a catheter constantly in the bladder, to prevent the passage of the urine through the wound, and so afford it an opportunity to heal. Again, it has been advised to apply the nitrate of silver to the fistula, but, to say nothing of the difficulty, neither of these plans appear to have been successful. One of M. Jobert's plans is as follows: he dissects off the reflected vagina from the anterior lip until he arrives at the fistula, the borders of which are to be refreshed with the bistoury, and sutures applied in the situation most suitable to the direction of the wound. A second method consists in an attempt to close the communication between the uterus and vagina, leaving open that with the bladder, by first dividing the cervix laterally, then dissecting the vagina from the anterior lip, and uniting it by section to the posterior lip. He gives a case of complete success by this latter process.

b. Vesico-utero-vaginal fistula.—In this complication M. Jobert proposes three different operations. The first consists in dissecting off the vagina from the remains of the cervix, then paring the borders of the fistulous opening, and lastly in uniting by suture the remains of the cervix with the edges of the vesico-vaginal opening; the second, in dissecting off the vagina from the cervix, in dividing this latter at each side, and after refreshing the edges of the fistula, in uniting by suture the posterior lip of the os uteri to the edges of the fistula. The third differs only in a depression being made in the anterior lip to fit more accurately the edges of the vesical fistula.* If necessary, incisions may be made laterally in the vagina, or semicircularly at its orifice, to relieve the strain upon the ligatures. M. Jobert gives the details of four cases, three of which he states were cured.

733. III. Recto-vaginal Fistula.—There can be no doubt that recto-vaginal fistulæ are less frequent, and more easily cured, than those fistulæ which involve the bladder. There are a few cases, but very few, on record, where this defect was congenital; most commonly it arises from causes connected with labor, as in the case of vesico-vaginal fistulæ, that is, from too prolonged pressure of the child's head giving rise to inflammation and sloughing, or from the awkward use of instruments; and in addition it may occur as a laceration, or from disease of the rectum, or from a pelvic abscess. This injury may exist alone or it may be combined with a vesico-vaginal fistula.

The extent, situation, and direction of the wound may vary to any extent, but in almost every case the sphincter ani is uninjured. When we examine the parts, the mucous membrane of the vagina and rectum is red and congested, the mucous follicles unusually developed, and the septum thickened when the injury is recent, but when of long standing, the edges are hard and cicatrized.

734. *Symptoms.*—The edges of the wound, at least when recent, secrete a certain quantity of matter, which is discharged by one or other outlet. When very recent, the vagina may be found inflamed to a greater or less extent, and giving rise to a purulent discharge. But the characteristic symptom is the escape of air or fæces through the vagina, which, however, may be modified by various circumstances. When the fistula is small or oblique, air may escape, but the fæces will be retained unless they are very fluid. Unless the opening be direct and large, solid matters are rarely passed, but their presence at the orifice is a continual irritation. When the opening is of sufficient size, fæcal matters and gas escape involuntarily, and the condition of the patient is most pitiable. Even if the bodily injury did not affect her health, her distress of mind in addition, is generally sufficient to do so; she is cut off from society, and, in the solitude of her own sufferings, her spirits and health are apt to deteriorate.

In some cases, however, matters do not become so desperate, although such instances are not common. For example, when the injury is small in extent, and the result of laceration rather than sloughing, it may heal with quiet and care; or, if small, it may be closed by granulations or by the formation of something like a flap or valve.

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* Traité des Fistules, &c. p. 70.

I had a patient who had a small recto-vaginal fistula for several years, through which nothing passed unless she took physic or had a diarrhœa, and from which she suffered very little annoyance.

735. *Treatment.*—The methods of cure do not differ much from those I have enumerated for vesico-vaginal fistula; they are, however, more easily applied. These are, 1, cauterization; 2, compression; and 3, the suture. Whichever we try, we must remember that the entire fistulous opening must be included.

When the fistula is small, cauterizing by the acid nitrate of mercury, nitric acid, nitrate of silver, or the actual cautery, has succeeded in the hands of Dupuytren, Amusat, and others; and if it fail, we may pare the edges of the wound from the rectum to the vagina, and apply sutures, with absolute quiet and rest. Cases of cure by these means have been recorded by Noel, Saucerotte, Fielding, Portal, Mott, &c. &c.

M. Cullerier, sen. proposed compression, and invented an instrument for the purpose, which he said succeeded; but it seems to have failed in other hands.

The insertion of a seton has been tried by Dr. Barton, of Philadelphia, in the case of a recto-vaginal fistula following an abscess, and with success, but it can only be suitable in very rare cases.

As M. Jobert observes, although some or all of these methods may succeed when the opening is moderate, there remains a class of cases in which they must fail, because of the extent of the mischief. For such cases he has proposed a plan, which he terms "*autoplastic par glissement*," which consists in renewing the edges of the fistula, in the insertion of the interrupted suture, in relaxing the surrounding tissues by incisions, and in appropriate regimen. The patient being placed on her back, with the thighs drawn upwards, the superior wall of the vagina is to be raised by a univalve speculum, and the lower depressed so as to bring the fistula into view. Its borders are to be removed by the knife, and three or four sutures, according to the extent of the opening from the rectum to the vagina, inserted through the parietes of both vagina and rectum, guided and guarded by the finger in the latter canal. When all the sutures are inserted, the parts are to be cleansed, and the sutures tied. Then there are to be made incisions through the vaginal parietes, for the purpose of taking off the strain from the sutures, and these may be longitudinal, transverse, or semicircular, according as either is able to afford most relief. After the operation, the patient must be kept quiet, and the bowels constipated by diet or medicine, until the sutures are removed on the sixth day. Every day the vagina must be syringed with emollient fluids, and when the union is complete, the bowels may be freed by enemata.* M. Jobert gives three very interesting cases in which the operation was successful.

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* Traitè des Fistules, p. 340.

CHAPTER VIII.

LACERATION OF THE PERINEUM.

736. When this accident is of slight extent, it may not interfere with the comfort of the patient; but when extensive, it will be a cause of constant distress; and in either case the proper cure of the wound is important; as, if callosites form, or irregular cicatrices, much impediment may be offered in subsequent labors. It is an accident much more common with first labors than afterwards.

It will be recollected, that when the head of the child descends so as to fill the cavity of the pelvis, it necessarily makes pressure upon the lower part of the rectum and the sphincter ani; that it then receives a direction forwards and downwards, and successively distends the central space of the perineum and its anterior border. When the perineum offers much resistance, as with first children, the mucous membrane of the posterior wall of the vagina, owing to its laxity of connexion with the subjacent tissue, is partially everted, and forms a kind of artificial perineum. This is almost always torn, but the rent may extend no farther; and if we examine the day after delivery we shall find this mucous membrane retracted, and the true perineum untouched. This is not to be confounded with the laceration of the true perineum, of which we are about to treat.

737. The *situation and extent* of the rupture vary according to the cause and the circumstances of the case.

1. It may commence at the anterior border, and extend *to* the sphincter ani; and this is the most frequent extent.

2. The rent may involve the entire perineum, and extend through the sphincter ani, laying the cavities of the rectum and vagina into one.

3. The central space of the perineum is sometimes ruptured, leaving the anterior edge (the fourchette) and the sphincter ani untouched. Cases are related by Hernu, Coutouly, Lachapelle[*] Meckel,[†] Lebrun,[‡] Thiebaut,[§] Frank, Martin,[‖] Moschener,[¶] Jungmann, Marter de Konigsberg,[**] Trinchinetti,[††] Merriman,[‡‡] Waller,[§§]

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[*] Duparcque: Ruptures ou Dèchirures, &c. p. 368.

[†] Neue Jour. fur die Chir. vol. iv. 1811.

[‡] Annals de Med. Phys. July, 1825.

[§] Journ. de la Soc. de Med. vol. xxxiv. p. 178.

[‖] Arch. Gen. de Med. vol. xxxiv.

[¶] Bull. de Ferrusac.

[**] Siebold's Journ. vol. xi. p. 726.

[††] Obs. sur l'Accouch. diff. Milan, 1819.

[‡‡] Synopsis of Difficult Parturition, p. 263, 4th ed.

[§§] Waller's Note in Denman's Introduction, p. 36.

Douglas,[*] Jobert,[†] Ellis,[‡] and Thatcher.[§] And a case occurred in this city. The rent may run along the central raphe of the perineum —on one side—diagonally—or in the form of the letter V or Y. In most of the above cases, the child actually passed through the central opening; but in some cases, by careful management, it was transmitted through the natural orifice, without rupture of the fourchette.[‖]

4. The recto-vaginal septum, sphincter ani, and part of the perineum may be torn, so as to permit the transit of the child, having the anterior portion of the perineum entire.

738. *Causes.*—The accident may arise from a deviation from the ordinary mechanism of parturition; from mal-conformation of the passage or soft parts; from mal-presentation; or from mismanagement.

1. If the *sacrum* be too *perpendicular*, the head of the child, instead of receiving a direction anteriorly, in the line of the axis of the lower outlet, will be forced downwards upon the posterior portion of the perineum.

2. If the *arch of the pubis be too acute*, so as to prevent the presenting portion filling its upper part, extraordinary dilatation of the orifice of the vagina will be necessary, and the head will be pressed with unusual force upon the anterior part of the perineum.

3. A similar effect is said to be caused by a *thickened state* of the *urethra* and circumjacent parts, in the arch of the pubis.

4. The *too rapid passage of the head* may be attended with this accident. This may depend upon the extraordinary violence of the pains, or upon the small size of the head, which prevents its receiving the successive changes of direction from the plane surfaces of the pelvis, and the changes in the axes of the cavity and lower outlet.

5. *Exostosis* in any part of the pelvic cavity may so act upon the direction in which the fœtal head is propelled, that rupture of the perineum may result.

6. *Excessive breadth of the perineum*, by receiving the force of the descending head in its centre, may be a cause of laceration, because the head rests in the centre, and distends it, instead of gliding forwards to the anterior edge.

7. *Rigidity* of the perineum, or an old cicatrix, may resist the dilating power of the head, and ultimately give way under the employment of greater force.

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[*] Dublin Hospital Reports, vol. iii.

[†] Bull. de la Soc. Med. d'Emulation, 1822.

[‡] Amer. Journ. of Med. Jan. 1849, p. 260.

[§] Edin. Monthly Journ. Jan. 1851.

[‖] Denman's Introduction to Midwifery, p. 36.

8. The tissue of the perineum may be *weakened* by disease, or by too much pressure, so as to offer little or no resistance.

9. *Occlusion* of the lower outlet by the *hymen*. As this membrane, though much thinner than the perineum, is far less distensible, if it do not give way, the perineum may. I attended a case in which the hymen resisted the pressure of the head (with strong pains) for two hours after the perineum was perfectly distensible, and in which there was every probability that the perineum would have been lacerated, had not the hymen ruptured. Laceration of the hymen may also be extended into the perineum.

10. *Mal-position* of the child's head, by presenting a longer diameter than usual to the lower outlet, may give rise to this accident.

11. *Mal-presentations.*—Face presentations, involving the passage of the head in its longest diameter over the perineum; breech, or footling cases, which do not receive a proper direction so readily as the head, may also lacerate the perineum. Dupuis relates a case, where one foot came through the vagina, and one was forced through the perineum.

12. The accident may arise from the woman being *awkwardly placed* for delivery, or from her *starting away* from the attendant; or from her *exerting too much voluntary force* at the time the head passes through the lower outlet.

13. The perineum may be torn, in consequence of *want of care when instruments are used.* They ought generally to be removed just before the head passes through the vaginal orifice.

From this detail of the causes which may produce or predispose to laceration of the perineum, it will be seen that it may not always be in our power to prevent its occurrence.

739. *Symptoms.*—If the laceration be very slight, no ill consequences will ensue; but if it extend to the sphincter, the patient will feel a want of support at the lower outlet, and a sense of "falling through." It is said to influence subsequent cohabitation, and certainly it will favor procidentia of the uterus.

If the recto-vaginal septum be torn, the condition of the patient will be very pitiable. The fæces (for some time at least) pass through the vagina involuntarily, and the utmost attention to cleanliness will not suffice to prevent the offensive smell, which renders the patient an object of disgust to herself and her friends. The lochial discharge passing over the wound, will for a time prevent any natural efforts at cure; and the edges may become callous, or degenerate into ulceration.

When slight, the rent generally contracts, and is healed without our interference, after a short time; and even when the recto-vaginal septum is torn, partial union may take place, leaving only a fistulous opening, or a kind of valve may be formed, so that under ordinary circumstances, the patient is partially relieved of her infirmity. But this is the work of time; it may be months or years.

740. *Treatment.*—1. *Preventive management.*—A few words may

not be misapplied in pointing out the best mode of preventing this occurrence.

1. Defects in the passage, which render the mechanism of expulsion inefficient, may often be remedied by the application of the hand in such a manner as to give a direction forward to the head.

2. Direct support should be given to the perineum when distended; but this is frequently carried to excess, and produces the accident it is intended to prevent; it should be moderate and gentle, just so much as to support the parts, but no more. I must altogether object to any attempt to retard the passage of the child, as erroneous in theory, and mischievous in practice.

3. When the perineum is rigid and undilatable, benefit may be derived from fomentations with hot water, the use of warm oil, lard, or pomatum.

4. Under no circumstances is it justifiable to dilate the external orifice with the hand, as formerly recommended; on the contrary, instead of drawing back the perineum, it ought to be carried forward.

5. If laceration be threatened in consequence of the persistence of the hymen, it may be incised with a blunt-pointed bistoury.

6. The patient should always cease forcing, and remain perfectly quiet during the exit of the child.

741. 2. *Curative treatment.*—Slight cases, as I have said, will often heal without assistance. Even when the rent is more extensive, a cure may be effected without further interference than great cleanliness, keeping the patient in one position, so as to preserve the edges of the wound in contact, and constipating the bowels after free purgation. If this do not succeed, we are advised to use a degree of compression, passing a binder around the hips, and a pad on either side of the perineum, so as to secure the apposition of the lips of the laceration. Strips of adhesive plaster have been applied, but they do not answer. In many cases either of these plans has succeeded, but in many cases also they have both failed, especially when the recto-vaginal septum is involved. However, we have still another resource—

In *the suture*, which was first proposed by Ambrose Paré, and practised by Guillemeau, La Motte, Saucerotte, Trainel, Noel, Dieffenbach, Roux, &c. Before this can be attempted, however, the primary inflammation must have subsided; nor is it forbidden, even though a considerable time should have elapsed. M. Montain cured a case on which he operated thirty-six days after delivery, and others have succeeded at a more distant period.

Three different kinds of suture have been adopted—the *interrupted*, the *twisted*, and the *quilled* suture. Osiander, Dieffenbach, &c., succeeded with the *first*, but according to Duparcque, the success and failure have been nearly equal. Mr. Alcock cured one,* and Mr. Rayer

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* Merriman's Synopsis, p. 110.

M. Langenbeck's method of operating some little distance the anterior wall of the rectum from the posterior wall of the vagina; 2, after removing the surface of the laceration, in applying sutures, beginning at the rectum; 3, in including the angles of the torn vagina in the last suture, at the fourchette, by which means the canal of the vagina is completed, and any discharges carried off; 4, in tightening the sutures after all have been inserted; 5, in taking off the strain upon them, by making an incision through the skin on each side of them.||

742. The *quilled suture* is evidently better adapted for the purpose, as the entire surfaces of the laceration may be brought into contact. Dupuytren succeeded once, Roux and Dieffenbach several times, M. Dubois failed, but Mr. Davidson succeeded completely. He thus relates the case:¶ "On the 6th of November, 1838, in company with Dr. Henry Davis, I performed the operation in the following manner: I passed deeply a strong double ligature, by means of a common curved needle, close by the edge of the rectum, and another, rather more than half an inch from the first, towards the vagina; after which I pared the edges of the wound, which I had not previously done, that I might not be annoyed by the oozing of blood, so as to be enabled to place the ligatures more accurately. The ligatures being introduced, I employed, as cylinders, two pieces of elastic gum catheter, about an inch and a half in length, one of which was placed in the loops which the double ligatures formed on one side, and the other between their separate ends, tying them firmly upon the cylinder. Baron Roux found, in his cases, that the use of the quilled suture caused an eversion of the edges of the wound: to remedy this, he had recourse to several small sutures, at different points between the different ligatures. To effect the same object, and also with a view of keeping the divided parts more closely and firmly in contact, I adopted the following plan, the materials for which I had prepared previously

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* Ed. Med. and Surg. Journ. vol. xix. p. 552.

Surgical Dict. p. 1209.

to the operation: I armed a curved needle with a piece of narrow tape, four inches long, having a knot at one end; this was passed down each end of both cylinders about half an inch, and brought outwards, the end of the tape being prevented slipping through by the knot; the tapes were then placed in such a situation as to be intermediate to the ligatures; this being done, I turned the cylinders gently towards the edge of the wound, and tied the corresponding tapes over it, which, I think, rendered it much more solid than any number of small ligatures could have done." The bowels were constipated by opium, the urine drawn off night and morning, and the diet consisted of small quantities of gruel and hard biscuit. The ligatures were removed on the seventh day, and union was found to have taken place throughout. The urine was evacuated naturally after nine or ten days, the bowels relieved on the seventeenth, and after six or seven weeks she was able to go about as usual. Dr. Colles has rarely succeeded in curing, though he has diminished the rent. If there should be loss of substance, or contraction of the two sides of the perineum, so that they will not readily meet or remain in contact, Dieffenbach makes an incision through the skin, on each side. Dr. Horner has suggested that the sphincter ani should be divided on each side, in order to allow the parts to remain in contact. In one case he also constructed a flap for the upper and lower half, from opposite sides, so as to supply the loss of substance.* His plan of dividing the sphincter has been also recommended by Messrs. Copeland, Bransby Cooper, and Brown.† The latter gentleman, who has published several successful cases, also advises constipation for some time after the operation. He first pares the edges of the laceration, then inserts the sutures deeply, and afterwards divides the sphincter ani on each side, whilst the patient is under the influence of chloroform. The bowels should be freed well before the operation, and an opiate given, so as to constipate them; when union is attained, this may be remedied by an enema. The catheter must be passed morning and evening for some time.

The diet should be spare: a little gruel and biscuit will answer very well. Of course, absolute rest is necessary.

"If the radical cure fail," Dr. Burns observes, "the patient must use a compress, with a spring bandage, if the stools connot be retained. But it sometimes happens that the torn extremity of the rectum, or the anterior parts, containing a fragment of the sphincter or a portion of the internal sphincter, as it has been called, forms a kind of flat valve, which rests on the posterior surface at the coccyx, so that the orifice now resembles a slit, and the fæces, unless very liquid, remain in the hollow of the sacrum, and do not pass through the vulvular orifice till an effort be made to expel. Sometimes the perineum unites,

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* Amer. Journ. of Med. Science, Oct. 1850, p. 329

† On the Surgical Diseases of Women, p. 31. 1852.

CHAPTER IX.

PUERPERAL FEVER.

743. PUERPERAL FEVER is probably the most fatal disease to which women in child-bed are liable, and it is by no means of rare occurrence. Its phenomena vary very much, and it has consequently been differently described, and under various names, such as Puerperal Fever, Child-bed Fever, Peritoneal Fever, Low Fever of Child-bed, &c. Another source of apparent contrariety has been the *prevalence of the disease epidemically, and the varying characteristics of these epidemics.* Unfortunately, the uniformity of the disease was assumed until comparatively recent times; and as Dr. John Clarke observes, each author erected his own experience into a standard by which to judge of the descriptions and practice of others.

According to Dr. Hulme's researches, the old writers were not ignorant of this disease. It is described by Hippocrates and Avicenna. Plater (1602) makes it to consist in inflammation of the uterus. Sennert (1656) describes it, and recommends bleeding. Riverius (1674) attributes it to suppression of the lochia, and Sylvius (1674) to deficiency of the lochia. Willis (1682) takes the same view of its nature as Plater. It is mentioned by Raynalde, Pechey, Strother (by whom it was first called Puerperal Fever), and other early English writers; by Viardel, Peu, Mesnard, and other ancient French authors, and by the Germans.

From careful investigation it has been proved that the disease prevails epidemically, and that it is more virulent in hospitals. It is everywhere more frequent among the lower classes than the higher. In Dublin this is even more remarkably the case than in London.

744. For the purpose of giving a more distinct view of the prevalence of puerperal fever, I have made out (as accurately as possible) a chronological list of the different epidemics, with the names of the authors by whom they are noticed or described, and the pathological characteristics when ascertained.

Date of Epidemic.	Place.	Author.	Characteristics.
1664	Paris,	Peu (Lee)	
1746	Paris,	Malouin,	Peritonitis, Hysteritis, &c
		Jussieu,	Disease of Ovaries.
1750	Lyons,	Doulcet,	Peritonitis, U. Phlebitis.
1750	Paris,	Pouteau,	Hysteritis, erysipelatous.
1760	London,	Leake,	Inflam. of Omentum, &c.
1760-61	Aberdeen,	Gordon,	
1761	London,	White,	Peritonitis.
1767	Dublin,	Jos. Clarke,	
1769	London.		
1770	London,	Leake,	Peritonitis (partial).
1771	London,	White,	
1773	Edinburgh,	Young,	
1774 to 81	Paris, London, Vienna,	Tenon, Doulcet, &c.	
1774-87, 88	Dublin,	Jos. Clarke,	Peritonitis.
1782	Paris,	Doulcet,	Peritonitis, Hysteritis.
1783	London,	Osborn,	Peritonitis.
1795	Vienna,	Jaeger,	Peritonitis, Phlebitis.
1786	Paris,	Tenon,	
1787	Gottingen,	Osiander,	
1788	London,	Jos. Clarke,	Hysteritis, Perit. &c.
1787-8	London,	Do.	Peritonitis, Hyster. &c.
1789-90,91,92	Aberdeen,	Gordon,	Peritonitis.
1803-10,12,13	Dublin,	Collins, Douglas,	Peritonitis.
1808	Barnsley, Yorksh.	Hey,	Peritonitis.
1812-13	Leeds, Yorkshire,	Hey,	Peritonitis.
1813	Sunderland, counties of Durham & Northumberland, Dublin,	Armstrong,	Peritonitis.
1811	Heidelberg,	Naegele, Bayrhoffer,	
1812	Holloway, London,	Dun,	Peritonitis.
1814-15	Edinburgh,	Hamilton,	
1816	Paris.	Tenon,	U. Phlebitis, Hyster. Perit.
1817-18	Pennsylvania, U.S.	Dewees,	Peritonitis.
1818-19, 20, 23	Dublin,	Collins,	Peritonitis.
1819	Vienna,	Boer,	
1819	Glasgow,	Burns,	
1821-22	Edinburgh,	Campbell.	Peritonitis.
1821-22	Glasgow, Stirling,	Campbell,	Peritonitis,
1827-28	London,	Gooch,	Peritonitis.
1827-28, 29	London,	Ferguson,	Peritonitis. Hysteritis.
1835-36-38	London,	Do.	Phlebitis, &c.
1825-27,28,29	Dublin (Lying-in) Hospital),	Collins,	
1829	Paris (Maternite),	Tonnelle,	Inflam. of Peritoneum, Uterus and appendages, and Uterine Phlebitis.
1829-40, occasionally,	London, Birmingham, Dublin (Lying-in Hospital),	E. Kennedy.	

Date of Epidemic.	Place.	Author.	Characteristics.
1831	Birmingham, Aylesbury,	Ceeley,	
1833-34	Vienna,	Bartsch,	Uterine Phlebitis.
1836-37	Dublin (New) Lying-in Hos.),	Beatty,	Peritonitis, Pleuritis, &c.
1838	Paris, London,		
1842	Rennes, London,		
1843	Rouen.		
1844	Rouen, Rennes,		
1845	Rouen, Paris Gratz,		
1846	Rouen, Dublin, Scotland,		
1852	Brakel, Westphalia,	Disse,	Typhoid Fever.
1844-5	Dublin,	M'Clintock,	Do.

745. From a review of the history of the epidemics of puerperal fever, it appears that there is some remarkable connexion between them and lying-in hospitals. I do not mean to assert that the epidemics always originate in and are kept up by these institutions, but I refer to the fact that we have no record of any epidemic independent of them in earlier times. The first in France, England, and Ireland occurred in the Hotel Dieu of the former, and in the lying-in hospitals of the latter countries; and although our earlier writers allude to inflammation of the womb, &c. occurring in child-bed, they make no mention of its prevailing extensively or as an epidemic. No doubt it has since been observed in private practice, in London, Edinburgh, Dublin, Leeds, &c.; but its extent in these cases is, after all, comparatively limited. In Dublin the higher ranks have been singularly free from attacks of the disease. Dr. Joseph Clarke practised for forty-four years in this city, during which time he attended 3847 cases of midwifery, and yet in that number he met with only three cases of peritonitis, and three others where the disease is doubtful, but which may have been uterine phlebitis, although, during that time, puerperal fever was more than once epidemic in the hospital. It has, however, certainly been more frequent of late years.

746. Perhaps the most general fact connected with puerperal fever is the presence of local disease. In almost all cases of the epidemic, when an opportunity of *post-mortem* examination has been permitted, local lesions of some kind or other have been detected, and even where this opportunity was denied, little doubt was felt by the medical attendants that such existed. It seems very probable, also, that in many cases where the local disease seemed but slight, there would now be recognised very important changes, for we know that a patient may die of inflammation of the uterine veins or lymphatics, with very obscure symptoms, and without either enlargement or obvious tender-

ness of the uterus, and that these morbid lesions may be easily overlooked if the examination be hasty or superficial. It is only fair, however, to state that Dr. Copland, in an excellent article on puerperal fever, differs from this view. He states that his experience has "convinced him that a most rapidly fatal and most malignant form of puerperal fever is occasionally developed in lying-in hospitals, which is certainly not characterized by uterine phlebitis nor by purulent collections in the uterus or its appendages, nor even in some cases by peritonitis, the chief lesion often being merely a remarkable alteration of the blood, general lacerability of the tissues, or loss of their vital cohesion soon after death, with a dirty, muddy, offensive, and sometimes a scanty effusion into the serous cavities."* He adds, however, that such cases are rare.

The local affections in puerperal fever embrace all the usual results of inflammation, and involve all the tissues of the organs of gestation, either separately or together. The most frequent appears to be peritonitis, originating very probably in the outer covering of the uterus, but spreading to the entire serous cavity. We find also inflammation of the muscular tissue of the uterus with its consequences, abscess, softening, and gangrene; inflammation of the lining membrane, softening, and gangrene; inflammation of the veins and lymphatics, with the secondary affections thence arising, inflammation and purulent deposits in different organs, muscles, and joints; and inflammation of the ovaries, with its consequences.

747. I must repeat my conviction that there are not many cases of puerperal fever without some local disease of the organs employed in parturition or of the neighbouring tissues; but are we thence necessarily to conclude that puerperal fever is always simply a local affection, the local disease being primary and the fever secondary? Must we adopt Dr. Robert Lee's opinion, that his "observations are therefore subversive of the general opinion now prevalent, that there is a specific, essential, or idiopathic fever, which attacks puerperal women, and which may arise independently of any local affection in the uterine organs, and even prove fatal without any change in the organization of their different textures? As the constitutional symptoms thus appear to derive their origin from a local cause, it would certainly be more philosophical and more consistent with the principles of nosological arrangement to banish entirely from medical nomenclature the terms puerperal or child-bed fever, and substitute that of uterine inflammation, or inflammation of the uterus and its appendages, in puerperal women."†

In the former editions of this work I adopted Dr. R. Lee's views, and employed his arrangement; but whilst I confess my obligations to his able researches, and agree with him as to the presence of local lesions generally, I am bound to state honestly and frankly that more extended experience has led me to doubt the accuracy of these views, and to believe that malignant puerperal fever is something more than a local affection, and that the constitutional disease is often rather primary than secondary. At the same time I have no doubt that Dr. Lee's views are applicable to many cases.

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* Dictionary of Pract. Med. part xiii. p. 500.

† Researches on the more Important Diseases of Women, p. 3.

What, then, is the essential nature of the malignant epidemic puerperal fever? This is a question not easy of solution, and one which has led to the expression of very different opinions. It has been regarded as

Inflammation of the Uterus, by

Hippocrates,
Galen,
Celsus,
Ætius,
Paulus Avicenna,
Raynalde,
F. Plater,
Sennert,
Riverius,
Sylvius,
Strother,
Mauriceau,
La Motte,
Sydenham,
Böerhaave,
Van Swieten,
Hoffmann,
Jussieu,
Villars,
Astruc,
Pouteau,
Denman.

Inflammation of the Omentum and Intestines, by

Hulme, Leake, La Roche,

Peritonitis, by

Waller,
Johnson,
Forster,
Cruikshank,
Bichat,
Pinel,
Gardien,
Capuron,
Gordon,
Hey,
Armstrong,
Clarke,
Campbell,
Collins.

Peritonitis connected with Erysipelas, or of an erysipelatous character, by

Pouteau,
Home,
Lowder,
Young,
Abercrombie,
Gordon,
Armstrong,
Hey,
Campbell, &c.

Fever of a peculiar nature, by

Willis,
Puzos,
Levret,
Doublet,
Hamilton.

Disorder of a putrid character, by

Peu,
Tissot,
Le Roi,
White.

Disease of a complicated nature, by

Petit,
Sellè,
Kirkland,
Walsh,
Tenon,
Tonnellè,
Lee,
Ferguson.

Fever with Biliary disorder, by

Finch,
Stoll,
Doulcet.

If we regard the peculiar characteristics of different epidemics, we find them extremely varied. In one, the lochia are suppressed; in another, they are profuse; and in a third, unaltered. Diarrhœa is common in one epidemic, constipation in another; typhoid symptoms in one, inflammatory in another. And as to the effects of remedies, we find as great a diversity; one high authority recommends saline purgatives, which fail in the hands of other practitioners; another loses all his patients until he bleeds largely at the commencement, whilst others lose all who are so bled. Calomel is the universal remedy in one epidemic, opium in another, purgatives in a third, inunctions in a fourth, turpentine in a fifth, &c.

Now, from these variations, the inferrence is obvious, that the *type of the disease varies in different epidemics, and that the treatment must necessarily differ*. But I think we may go a step further; and if any one will carefully compare a case of simple inflammation of the womb or peritoneum in child-bed with a case of malignant epidemic puerperal fever, their symptoms, general and local characteristics, course, and the effects of remedies, they will be obliged to come to the conclusion that, although the latter may exhibit local disease, it is not exclusively nor primarily a local affection.

748. I should wish to speak very cautiously and guardedly on so difficult a subject, but after a careful comparison of the experience of others with my own, I am inclined to believe that the essential difference between epidemic puerperal fever and simple inflammation consists in a morbid deterioration of the blood in the former case, which is rarely present in the latter, or not till an advanced stage, whether this depravation result from some general noxious influence or from some malign peculiarity of the constitution. The following considerations seem to support this view: 1. Puerperal fever prevails most during the winter and spring months, in moist and cold weather, or during alternations of cold and warm moist weather, as the following tables show:

TABLE I. (*Dr. Gordon's.*)

	Cases of Puerperal.		Cases of Puerpe
October	13	April	6
November	8	May	6
December	12	June	
January		July	
February	8	August	5
March	6	September	5

TABLE II. (*Dr. Campbell's.*)

	Cases of Puerperal.		Cases of Puerpe
1821, March	1	1822, January	7
" April	7	" February	6
" May	2	" March	5
" June	2	" April	4
" July	3	" May	4
" August	1	" June	3
" September	1	" July	2
" October	7	" August	1
" November	13	" September	3
" December	11	" October	2

TABLE III. (*Dr. Ferguson's.*)

	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838
January ...	...	2	3	3	...	2	...	...	2	4	3	9
February*	...	2	7	...	...	...	...	...	2	6	...	...
March	1	...	3	2	...	...	2	...	...	6	...	8
April†	3	...	1	1	4	1	1	3	2	6	3	9
May.........	4	4	...	...	1	...	2	...	5	2	2	...
June	...	3	...	...	...	1	2	...	6	4	...	...
July	...	3	...	...	...	2	...	...	...	...	...	...
August ...	...	3	1	...	...	...	...	...	...	...	...	...
September	2	8	...	...	...	...	1	...	...	...	1	...
October ...	...	4	6	...	...	2	...	...	5	...	...	...
November	...	...	...	1	2	...	...	4	2	...	...	...
December	...	8	3	...	2	...	1	2	2	3	...	...
Attacked	10	37	34	7	9	8	9	9	26	31	9	26
Died	1	7	6	2	2	5	3	5	10	9	2	20

* Hospital closed, Feb. 1838.

† Closed from April to Nov. 1838.

TABLE IV. (*M. Dugès'.*)

	Cases.		Cases.
1819, January	81	1819, July	40
,, February	82	,, August	40
,, March	65	,, September	53
,, April	47	,, October	69
,, May	67	,, November	74
,, June	35	,, December	63

TABLE V. (*M. Delaroche's, Geneva.*)

	Cases.		Cases.
January	77	July	37
February	43	August	36
March	76	September	51
April	55	October	51
May	35	November	66
June	40	December	61

Thus, the most injurious months in Aberdeen were October, December, November; in Edinburgh, November, December, January; in London, January, March, February, December, May; in Paris, November, October, February; in Geneva, January, March, February; and during these months we find other diseases prevail most whose characteristic is depravation of the blood.

2. The two epidemic diseases which most commonly prevail at the same time, and under somewhat similar circumstances, are erysipelas and typhus fever, especially the former, whose presence in surgical hospitals is always indicative of impending puerperal fever. Some have gone further, and expressed their opinion of these diseases being so far identical, as that infection from either erysipelas or typhus fever may give rise to puerperal fever. Mr. Nunnelly, in his work on Erysipelas, considers the two diseases to be identical, prevailing during the same atmospheric conditions, exhibiting the same general symptoms, and each capable of reproducing the other. Dr. Hutchinson and others have seen both puerperal fever and erysipelas in the same patient at the same time, and I have noticed that the infants of women attacked by puerperal fever are very liable to erysipelas or diffuse inflammation. It is also beyond question, that infection carried from a patient suffering from erysipelas to a lying-in woman, may in her give rise to puerperal fever. I am not, however, about to contend for the identity of these two diseases, but merely to point out the great probability that the essential feature of erysipelas is a morbid alteration of the blood, or, in the words of Mr. Nunnelly, that "it is highly probable, if not certain, that there is some change produced in the state of the blood, which change may depend upon alterations we are unable at present to appreciate, but which is likely

to occur in many tissues, and may thus affect the mass of the blood more or less quickly, and to a greater or less extent, according to the influence they have upon, and the connexion they have with, the blood in a state of health."*

As to typhus fever, there is evidence on record that women in childbed, exposed to the contagion of typhus, have exhibited all the symptoms of puerperal fever. The late Dr. Labatt mentioned to me that he had known a patient labouring under typhus fever, and brought into the lying-in hospital, to originate puerperal fever in patients in the same ward, who had recently been confined. And Dr. Collins mentions a similar instance. No doubt exists at present, I believe, that in typhus fever the state of the blood is much deteriorated, and that this constitutes a most important, if not essential, character of the disease. As bearing upon the present question, I may quote the following passage from Dr. Ormerod;† "Besides the sudden increase, under such circumstances, of the number of patients suffering from fever, there is observed in all epidemics, from the plague of Athens downwards, a tendency of all diseases to assume, as far as may be, the epidemic type. Much, probably, of this is explicable on the supposition of the existence of the same atmospheric condition affecting all who cannot resist it, in the same way; but however this may be, as far as general impressions in the absence of notes will justify the assertion, simultaneous with the occurrence of fever in the medical wards, phlebitis and troublesome sores are more commonly met with in the surgical wards of this hospital, and erysipelas of the head and face in both." Much more evidence of a similar kind might be adduced, but this is sufficient for my purpose.

3. Dr. Simpson has adduced the analogy between certain forms of puerperal fever and the secondary fever which occurs after great surgical operations, and which there can be little doubt is owing to the absorption of purulent matter. This very closely agrees with the conclusions expressed by Dr. Ferguson, as follows: "1, the phenomena of puerperal fever originate in a vitiation of the fluids; 2, the causes which are capable of vitiating the fluids are particularly rife after childbirth; and 3, the various forms of puerperal fever depend upon this one cause, and may readily be deduced from it;"‡ and he quotes in confirmation the analogy drawn by Cruveilhier between the surface of the uterus and an amputated stump.§

749. Thus then we find that the same seasons give rise to erysipelas, typhus fever, and puerperal fever; that they prevail epidemically at the same time; and as an epidemic take on the same type, and appear

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* On Erysipelas, p. 72.

† On Continued Fever, p. 168.

‡ On Puerperal Fever, p. 53.

§ Anat. Path. Liv. 13.

capable, the one of giving rise to the other, or of co-existing in the same patient. Further, that the symptoms of certain forms at least of puerperal fever are similar to those which occur after great surgical operations, and that the secondary lesions are similar. Now, in erysipelas, typhus fever, and the secondary fever after operations, there can be little doubt of the depraved condition of the blood, and it is highly probable that their low typhoid character is owing to this blood-poisoning. I think, therefore, that the conclusion, that the peculiar character and malignancy of certain epidemics of puerperal fever also depends upon a morbid condition of the blood, however produced, in addition to the local disease, is inevitable.*

Unfortunately, we have but little direct evidence of the state of the blood in puerperal fever. Dr. Arnott's researches have disproved John Hunter's opinion, that phlebitis destroyed life by an extension of the inflammation to the heart; and with other investigations have shown that it is owing probably to deterioration of the blood. M. Bouillaud, in 1825, attributed the typhoid symptoms in phlebitis to a mixture of pus with the blood: and he adduces the experiments of Baglivi, Majendie, and Gaspard, as confirming his opinion, they having produced similar results by the injection of putrid matter into the system. We know from the observations of Dance, Tonnellè, Duplay, Lee, and many others, as well as from our own observations, that pus is found in the uterine veins in considerable quantity in some forms of puerperal fever, and we find that the symptoms described as characteristic of irritative phlebitis closely resemble those of puerperal fever.

Mr. Moore states that he "has seen a black precipitate in the blood of a person laboring under the adynamic form of the disease. Such a deposit is often found in typhus, and in the last stage of infectious erysipelas and phlebitis. Another similarity between the blood in this affection and in other diseases of a typhoid and malignant character, is the peculiarly offensive odour occasionally arising from it."†

In the epidemic which occurred in 1845, in Paris, and which presented the symptoms of low typhus, MM. Bidault and Arnold state that the blood was dark and semi-coagulated, as in low typhus fever.‡ And in the epidemic which occurred at Grätz in the same year, Dr. Schoeller mentions that the blood was very fluid, and exhaled a peculiar bat-like odour; in other respects it resembled the blood of persons poisoned by prussic acid.§

Dr. Scanzoni has recently maintained that the special causes of

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* For further details, I refer the reader to a review in the Brit. and For. Med. Chir. Review for October, 1855.

† On Puerperal Fever, p. 183.

‡ Gazette Médicale, Aug. 1845.

§ Med. Jahrbuch. der K. K. Oester. Staats, Oct. 1845.

of Scherer, Haller, Becquerel, and Rodier, the
increase of fibrin, and a great diminution of blood corpuscles.

Dr. Copland states that he is not acquainted with any analysis of the blood in the most malignant form of puerperal fever, except that which Dr. Day quotes from Haller, who states that the blood was of a very dark-brown colour. The clot was dark, of a loose consistence, and covered by a buffy coat, over which was a delicate membrane, which presented under the microscope a firmly granulated appearance and fat vesicles. The serum was turbid, but after standing for some time it became clear; its reaction was alkaline; its specific gravity was 10·25. The fibrin was 5·16; the blood corpuscles, 77·52. According to Becquerel and Rodier, the cholesterin and phosphates are increased.

Although the evidence I have now adduced may not be sufficient to *prove* that purulent depravation of the blood is the sole or essential cause of malignant puerperal fever, I think it affords ground for believing that the general element which constitutes the difference between this form of puerperal fever and simple inflammation of the uterus and peritoneum, may consist in some form of deterioration of the blood, depending either upon atmospheric malaria from without or absorption of some noxious matter generated within the body. At all events, I cannot but agree with Mr. Moore, that "in puerperal fever, typhus, cholera and other epidemic and contagious diseases belonging to the class *neuroses*, there is, besides inflammatory action, another element, unknown, but which has an essential influence upon the intercurrent phlegmasiæ arising in their course, and which may yield at one point only to appear at another."[†]

750. Various *causes* have been assigned for the production of this disease: it has been attributed to difficult labor,[‡] to uterine inflammation,[§] to an accumulation of noxious humours,[‖] to violent mental

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[*] Ranking's Abstract, vol. vii. p. 335.

Puerperal Fever, p. 126.

emotions, stimulants, and obstructed perspiration;[*] to miasmata; to admission of cold air to the body and into the uterus; to hurried circulation; to suppression of the milk; to diarrhœa;[†] to putrid contagion from alteration in the fluids during pregnancy;[‡] to hasty separation of the placenta; to too tight application of the binder;[§] to sedentary employment; to stimulating or spare diet; to fashionable dissipation; to retained portions of the placenta; to floodings from non-contraction, according to Mr. Skey; from violence but not from want of contraction, according to Dr. Armstrong; to inflammation of the intestines and omentum, from the pressure of the gravid uterus;[‖] to atmospheric derangement; to erysipelas, metritis, or phlebitis, and to contagion of a specific kind.

A word or two upon some of these supposed causes may not be out of place. I do not think we can fairly regard difficult labor as a direct cause,[¶] although the condition in which the woman is left may render her more obnoxious to the epidemic. Primiparæ certainly seem somewhat more liable to be attacked,[**] and also patients who at the time of labor are in a weak, reduced state.[††]

Mental emotion may undoubtedly be considered an effective predisposing cause. Under its influence females are peculiarly exposed to puerperal fever, and less able to bear it: thus it has been remarked that unmarried women are often victims.[‡‡] Several of the worst cases I have seen were mainly attributable to this cause. Cold may fairly be admitted into the list of causes. Portions of placenta remaining in the uterus, and putrefying, may, I believe, give rise to puerperal phlebitis, although this is not invariably the case.

Gastro-enteric irritation may certainly be propagated to the neighbouring tissues; and cases which appeared simple at first may thus assume the character of puerperal fever, especially during an epidemic.

That hemorrhage during or after labor does not prevent puerperal fever, we have abundant proof; but that it renders a patient more liable to it, except so far as it reduces her strength, may be doubted.

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[*] F. Cooper, 1766, Comp. of Med. part iii. sect. iii. Leake, vol. ii. part xxxiii.

[†] R. W. Johnson, 1769, New System of Midwifery, part iv. chap. vii.

[‡] J. Miller, 1770, Obs. of Prevailing Diseases, part iii. chap ii.

[§] Manning on Female Diseases, ch. xx.

[‖] Dr. Hulme on Puerperal Fever, p. 147.

[¶] Armstrong on Puerperal Fever, p. 2.

[**] Collins' Pract. Treatise, p. 384.

[††] Dr. Jos. Clarke's Essay Med. Comment. 1791, p. 311.

[‡‡] Home, Chir. Exp. p. 83.

To a considerable extent, as we have seen, the state of the atmosphere influences the disease; in damp, moist weather, it is much more prevalent, and less so in warm, dry weather.

Whatever that which we call epidemic influence may be, there can be no doubt that to it the majority of cases are attributable, especially the worst and most fatal.

751. Another very important question yet remains for our investigation, viz., that of the *infectious or contagious nature* of puerperal fever, particularly when it is epidemic. Of the simple cases of peritonitis or phlebitis after labor, occurring sporadically, I do not know that any one considers them contagious; but of the low malignant fever, opinions have varied considerably. Drs. Hume, Hay, Armstrong, Dewees, Davis, Baudelocque, Tonnellè, Jacquemier, Kiwisch, Meigs, &c., deny the contagion; Drs. Gordon, Young, Clarke, Denman, Burns, Hamilton, Blundell, Gooch, Mr. Ceely, Drs. Ramsbotham, Rigby, Lee, Copland, Channing, Holmes, &c., affirm it.

In all cases where a disease is epidemic, it is, and ever must be, a difficult matter to decide as to the extent of its infectiousness, because, in order to be exposed to either the contagion or infection, a person must also necessarily be placed in circumstances favorable to the exertion of its influence as an epidemic. But after a close and careful examination of the history of epidemics, of cases recorded, and of the opinions of men of the greatest experience, I believe that the weight of evidence is in favor of puerperal fever being infectious and contagious, *i. e.*, that it may be communicated from a patient laboring under it to another who is in contact or close neighbourhood with the affected party.

752. Leaving the general question of contagion from one patient to another, let us for a short space examine into the evidence in favor of the communicability of the disease by a third party from a patient laboring under it to another during or after her delivery. The exact value of the facts on record will be better estimated by a little classification.

1. It seems impossible to doubt that contagious matter capable of exciting puerperal fever may possibly be conveyed by a third party unaffected by it; for example, in the cases on record of puerperal fever following the services of medical men and nurses who were in attendance upon erysipelas immediately before. The instances are too remarkable and too numerous to be regarded as coincidences, nor would even the prevalence of an epidemic of puerperal fever at the time invalidate our conclusions; it might certainly render the cause more influential.

2. It is the recorded opinion of Rokitansky, Semelweiss, and others, that morbid matter acquired in the dissection of subjects not dying of childbed fever may be conveyed by the dissector, and excite the disease in a patient delivered by him; and to this, among other causes, has been attributed the presence of puerperal fever in the wards

of the Vienna Lying-in Hospital. A celebrated foreign practitioner attributed two outbreaks of this disease among his private patients to his having handled morbid specimens just before attending a patient in her accouchement.

3. We should, therefore, have less difficulty in believing that similar effects may be produced by those passing from the dissection of puerperal patients to the delivery of healthy ones, especially if the most rigorous precautions were not observed. For instance, in the autumn of 1821, Dr. Campbell, of Edinburgh, attended the dissection of a married woman who died of the disease, after an abortion of the early months; he removed the pelvic viscera and external parts, and carried the whole in his coat packet to the class room. The next morning, dressed in the same clothes, he assisted, with some of his pupils, at an instrumental delivery at Bridewell. This woman was seized with the same affection, and died. The same night he accompanied Dr. Orr to the delivery of a woman residing in the north back of the Cannongate; she was equally unfortunate; and three other poor women shared the same fate in quick succession. In a subsequent year, 1823, he assisted at the dissection of a childbed fever case, but could not wash his hands with the care he desired; thence he went to attend two other women in labor, both of whom died of puerperal fever.

At a meeting of the College of Physicians, Philadelphia, U. S., Dr. Warrington stated that, after assisting at an autopsy of puerperal peritonitis, he was called upon to deliver three women in rapid succession. All these women were attacked with different forms of what is commonly called puerperal fever.

"Mr. Davies states that in the autumn of 1822, he met with twelve cases, while his medical friends in the neighbourhood did not meet with any, or, at least with very few. He could attribute this to no other cause than his having been present at the examination of two cases, and his having conveyed the infection to his patients, notwithstanding every precaution."

"A young surgeon, shortly after examining the body of a sporadic case that had died, delivered three women, who all died of puerperal fever."

"Dr. Ingleby states that two gentlemen, after the *post-mortem* examination of a case of this disease, went in the same dress, each respectively, to a case of midwifery. The one case was attacked in thirty hours afterwards, the other in three days. One of the same surgeons attended, in the same clothes, another female, and she was attacked on the evening of the fifth day, and afterwards died."*

Now with regard to cases attended immediately after the *post-mortem* dissection, there seems little room for doubt as to the exciting

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* Copland's Dictionary: art. Puerperal Fever.

scarcely anything to do. The next morning
in forty-eight hours.

We do not know whether puerperal fever was epidemic at the time, but the cause suggested seems so inadequate that we should be inclined to look for some other explanation.

5. So far, then, we have seen medical men engaged in handling morbid matter, their dress and persons exposed to the effluvium from dead bodies, and passing directly to attendance upon lying-in women; here we have a distinct, appreciable exciting cause adequate to the production of disease in healthy persons, and which may have been, and probably was, conveyed to the patients who were first attended, and in whom puerperal fever appeared. But in several instances the disease was not confined to the first woman attended, but appeared in others delivered successively. How are we to explain this, and how can we explain the pertinacity with which puerperal fever seems occasionally to track the footsteps of one or two practitioners, whether at first lighted up by morbid matter derived from dissection or not? Take the following examples. Dr. Gooch mentions that "A general practitioner, in large midwifery practice, lost so many cases from puerperal fever, that he determined to deliver no more for some time, but that his partner should attend in his place. This plan was pursued for one month, during which not a case of the disease occurred in their practice. The elder practitioner being then sufficiently recovered, returned to his practice, but the first patient he attended was attacked by the disease, and died." This latter fact seems to us to prove that the disease was epidemic at the time. Similar instances have come to our own knowledge more recently.

Dr. West, of Philadelphia, states that seven females delivered by Dr. S. Jackson, in rapid succession, were all attacked with puerperal fever, and five of them died. These were the only cases that occurred in that district, for the women became alarmed, and sent for other assistance.

A physician in Boston, U. S., had the following consecutive cases:—On March 24th, April 9th, 10th, 11th, 27th, and 28th, and May 8th, except the last, as also two who were confined March 1st and 5th. Mrs. E., confined February 28th, sickened and died March 8th. The next day, March 9th, I inspected the body, and the night after attended a lady, Mrs. G., who sickened and died on the 16th. The 10th I attended another, Mrs. B., who sickened but recovered. March 16th I went from Mrs. B.'s room to attend a Mrs. H., who sickened and died on the 21st. The 17th I inspected Mrs. G. On the 19th I went directly from Mrs. H.'s room to attend another lady, Mrs. G., who also sickened, and died on the 22nd. While Mrs. B. was sick on the 15th, I went directly from her room, a few rods, and attended another woman who was not sick. Up to the 20th of the month I wore the same clothes. I now refused to attend any labor, and did not until April 21st, when, having thoroughly cleansed myself, I resumed my practice, and had no more puerperal fever. The cases were not confined to a narrow space. The two nearest were half a mile from each other, and half that distance from my residence. The others were from two to three miles apart. There were no other cases in their immediate vicinity."

Dr. Ramsbotham has known the disease to spread through a particular district, or to be confined to the practice of a particular person, almost every patient being attacked by it; whilst other practitioners had not a single case; and he considers the distemper as being capable of conveyance not only in common modes, but through the dress of the attendants on the patients.

In Sunderland, 40 out of 53 cases occurred in the practice of one surgeon and his assistant.

Dr. Roberton, of Manchester, states, that between the 3rd of December, 1830, and January 4th, 1831, a midwife attended 30 patients of a public charity, 16 of whom had puerperal fever, and all died. Other midwives of the same institution attended 380 women during the same time, and none suffered from it. He also mentions the case of a practitioner, who introduced the catheter for a poor woman in puerperal fever, late one evening, and attended a lady in her confinement during the same night, who was attacked with puerperal fever on the second day.

Analagous cases have been recorded by Dr. Pierson, of Salem, U.S. Dr. Peddie, and Mr. Beecroft; and such examples are, doubtless, very startling, and require a careful examination, to ascertain their exact value as bearing on the question at issue; but we shall first hear what Dr. Meigs says on the other side. His first argument is from personal experience:—"I have practised midwifery for many long years. I have attended some thousands of women in labor, and passed through repeated epidemics of childbed fever, both in town and hospital. After all this experience, however, I do not, upon careful reflection and self-examination, find the least reason to suppose that I have ever conveyed the disease from place to place in any single instance. Yet for many years I carefully considered whether such a transfer by a third person might be possible, and carefully read the statements of various authors to that effect. In the course of my professional life, I have made many necroscopic researches of childbed fever, but never did suspend my ministry as accoucheur on that account. Still I certainly never was the medium of its transmission. I have, in numerous instances, gone from the bed-side of women dying of childbed fever, whether sporadic, or the most malignant degree epidemic, without making my patients sick. I have also endeavoured to assist my brethren, when they had such cases and I had none. In a series of labors, 468 in number, and beginning with No. 1, I find that Nos. 18 and 19 were affected, and that No. 18 died with childbed fever; No. 31 was sick, but recovered; Nos. 195 and 259 were sick, but recovered; but 291 died, as did also 293. Nos. 332, 339, 435, 444, and 445 were attacked, and recovered. The above cases—viz. 18, 19, 31, 195, 259, 291, 293, 332, 339, 435, 444, 445, 455, are, in all, 13 cases in 468 labors, of which 3 died and 10 recovered. Now, if I was the medium of contagion for any one of that series of 468 confinements, why did I poison them in the ratio and order above set forth: and why did I not communicate the disease in more than 13 out of 468 cases? What became of my nebula from 31 to 195; to 259, and between 291 and 435, and so to the end, or 468? Such a table is far more easily explained by regarding the falling-out of the cases as coincidences and accidents, than as material causations, through a private pestilence."

Again, as regards the singular limitation of the disease to the practice of one person, Dr. Meigs observes:—"At page 631 of my work on Obstetrics, second edition, I have related the circumstances attending the practice of a physician at Philadelphia, who, in one of our epidemic seasons, lost a considerable number of women in childbed. His patients were scattered over a great superficies of the city and districts, some of them being more than two miles from the others. At that time many women were attacked, in various parts of Philadelphia, as well as in the state of Pennsylvania; yet, so far as has come to my knowledge, no other medical gentleman happened to encounter such a great number of childbed fevers as he did. I visited, in consultation with him, some of the very worst of the cases, and touched the patients, and was as liable to imbibe or to be clothed with the effluvia from their bodies as he was; nevertheless, I did not carry poison or other cause of disease to any patient of mine; and if not I, then how should he become capable of doing so? He is a gentleman who is scrupulously careful of his personal appearance, of great experience as a practitioner, and well informed as to modern opinions on the contagion of childbed fever. Still those of you who are contagionists will say that he carried the poison from house to house, and if so, then you ought to give some *rationale* of the fact. Did he carry it on his hands? But a gentleman's hands are clean. Did he carry a nebula or halo about him? Then why not I also? If the nebula adhered to his clothing, it might as well have adhered to mine. What will you say, young gentlemen, of the experience of my friend, Dr. D. Rutter, formerly of Philadelphia, but now of the city of Chicago, who passed through terrible scenes here, in an epidemic of childbed fever, some years ago, when he had a most extensive midwifery practice in town and country? During that sad time, I saw several fatal cases with him in consultation; and though he seemed to be tracked by the cause of the disease, to judge by the numerous attacks of it in his lying-in patients, I was not tracked by it. I took no precaution, except such as every decent man should be supposed always to take; yet I never did carry the disease from his cases to any houses where I visited lying-in women. But he was charged with being a carrier of contagion. How could he carry the cause? What was the cause? Was it some ozone that stuck to his hands or coat? Was it a nebula, a halo, or a miasm that mixed with the hairs of his head or the woollen or cotton fibres of his dress? or an exhalation from his skin, or a halitus from his lungs, like the fiery breath of Cacus? And can you say of him, as Virgil sings—

> 'Faucibus ingentem primum, mirabile dictu
> Evomit.'—*Æneid*, lib. viii. p. 258.

Come now, was not such poison more sticky than bird-lime, seeing that Dr. Rutter, worn out with fatigue, and wounded in spirit by his cares for the unfortunate victims of an epidemic disease, left the city for the purpose of gaining some strength, and to escape from the repetition of such disheartening labors, and that even a quarantine could not liberate him from this poisoned cloud? One might hope it would have been blown away by the wind, or that it would have evaporated or become too dilute to kill, after a ride of seventy miles, and an absence of ten days. But it happened, after this rustication of ten days at a distance of thirty-five miles from the city, that your bird-lime or cloud still adhered to him, as your contagionists would say. And more than that, he could not even wash it away or shave it off; for upon coming back to the city, and to his professional toil, before he engaged in practice again, he caused his head to be close shaved; he entered a warm bath and washed himself clean; he procured a *new wig, new clothes, new hat, new gloves, and new boots.* He did not *touch* anything he had worn, and took the precaution to leave his pencil at home, and his watch. Well, what do you think happened next? He went out to attend a lady in labor, who had a favorable parturition, yet was next day assailed by a horrible childbed fever, of which she died, in spite of all his efforts, and mine to help him; and he called me in consultation immediately after being summoned himself to her chamber. I know that that lady died with peritonitis. I was a great deal with her in her illness, but she did not poison me or my clothes; for although I went on with my practice, I poisoned nobody, and made nobody have even so much as a finger-ache. Dr.

boast of a higher triumph of his art of

753. Let us now look a little closer into this matter. fact apparently established by the foregoing observations is, that puerperal fever does sometimes prevail chiefly among, or is altogether limited to, the patients of certain practitioners, and the question arises, To what is this owing? The question is *not*, whether contagion is the only, or the chief, or the ordinary means by which the disease is propagated: for it is admitted on all hands to prevail epidemically. Nor is it the question, whether, under favoring circumstances, contagion may not be conveyed to the patient by the accoucheur, for we have related cases in which it seems impossible to doubt that this took place. We must therefore eliminate from the foregoing examples the case of the physician who wrote to Dr. Holmes, because, having made *post-mortem* examinations, his experience may rather be referred to section 3. In most of the instances, we are not told whether the practitioners examined the bodies after death; if they did, we cannot deny that there was a possibility that they might have carried the infection.

Again, if, as Dr. Rigby remarks, "the discharges from a patient in puerperal fever, are highly contagious," it is at least possible that the case of the midwife mentioned by Dr. Roberton may be thus explained, inasmuch as her duties about her patients would necessitate more or less contact with the excretions.

Excluding these classes of cases, evidence enough remains to show that the fever does sometimes follow in the track of particular accoucheurs; and the real question before us is, whether it does so by contagion conveyed by him from other patients, in spite of the ordinary precautions, or in certain cases, notwithstanding the extraordinary precautions of baths, change of air, change of clothes, &c. or whether in such cases the prevalence of an epidemic of puerperal fever is a sufficient explanation, admitting it to exhibit caprices similar to other epidemics. It is impossible to bring the matter to a demonstration either way, difficulties meet us upon either supposition, and perhaps to adopt will be for us to weigh these difficulties sepaof certain medical men, and its being in some cases apparently limited to them. That one man should see more cases than another of any epidemic disorder is common enough, and would be no difficulty in the present case, but that one should see all, and others none, does seem rather startling. But is the proof of the latter sufficiently conclusive and sufficiently extensive? Dr. Gooch does not tell us whether the disease was epidemic or not, nor does Dr. West. The gentleman who wrote to Dr. Holmes states that no other cases occurred in the vicinity, but we have rejected his example as being one of *possible* contagion on the ground of his *post-mortem* examinations. In Sunderland there were at least thirteen cases which occurred in the practice of others, besides the surgeon and his assistants. The two examples related by Dr. Meigs occurred during epidemics. So that it must be confessed that the evidence we possess to show the insufficiency of epidemic influence as an explanation, and the necessity of finding some other cause for its greater prevalence in a particular direction, is neither extensive nor positive.

The explanation which attributes this peculiarity to contagion, has the merit of being simple and apparently adequate, but the difficulties on examination are more numerous and fully as great. Assuming for a moment that the disease can be only communicated during labor, let us recal to our readers what takes place during an ordinary visit to a patient in puerperal fever, during which time the infection is to be taken. The visit may occupy five or ten minutes, the physician stands by the bed, feels the pulse, examines the abdomen, but does not come in contact with the discharges. Having made his investigations, he washes his hands carefully, and then pays more visits, passing through the air, until evening, or until he is called to a labor. If many hours elapse, he must have washed his hands several times. Yet, in spite of all this, we are to suppose that he carries morbid matter on his hands or clothes, acquired from the fever patient, enough to poison the lying-in woman. And not only this, but the explanation is supposed to be equally valid even though he change his clothes, thus limiting the infection to the hands, and even though he use chloride of lime or potash.

If the morbid matter be conveyed on the hands, the infection, we suppose—and such seems to be the general opinion—must be imparted during labor; but if on the person or clothes, the effect might, of course, be produced subsequently, and hence another difficulty. During the visit, the consulting physician is as close to the fever patient, examines her, handles her quite as much at the visit as her ordinary attendant, and, it may be assumed, adopts afterwards much the same precautions. Yet we do not hear of his conveying the fever to his own patients in any case, and we have Dr. Meigs' positive statement that such an occurrence never took place in his practice. The advocates of contagion should explain this.

Again, in all contagious diseases the intensity of the contagion property; if this rule be true, liable to take the disease than the second, and third. How then explain the fact, on the principle of contagion, no such sequence of attacks is observed? the cases affected observed no such order, as the reader will see by turning back to Dr. Meigs' registry.

Moreover, in two of the most striking cases we have quoted, Dr. Gooch's and Dr. Rutter's, there is a circumstance which is not reconcileable with, or explicable by, the doctrine of contagion, as we understand it. In one case a month, and in the other ten days, of absence elapsed, and the latter was accompanied by a complete renewal of clothing, and yet the first case attended by both was attacked by puerperal fever. Are we to attribute this to remaining contagion, and, if not, does it not point directly to some other influence which may have operated previously as well?

Thus, a belief in the contagiousness of puerperal fever under ordinary circumstances, and excluding the cases in sections 1, 2, and 3, must involve, on the one hand, the conclusion that it is of all contagious disorders the most virulently contagious, inasmuch as it assumes that it can be conveyed by a healthy person exposed for a few moments only to its influence, to a third party hitherto in health, and this notwithstanding that the hands, the only part in contact with the sick person, have been carefully washed, the clothes changed, and the entire person exposed to the air, it may be, for hours; and yet, on the other hand, that this contagious property limits itself to the ordinary attendant, and does not affect the consulting physician. Admitting that we cannot fully and satisfactorily explain the limitation of the disease on the supposition of epidemic influence only, I ask the reader whether the difficulties attendant upon the explanation by contagion are not more insuperable?

In conclusion, therefore, whilst I feel compelled by the evidence on record to admit the possibility of puerperal fever being conveyed and communicated or excited by those who attend midwifery cases after being employed in dissection or *post-mortem* examinations, and also much in contact with the fever patient or the dis-influence, and its limitation, to conditions or circumstances of which we are at present ignorant.

754. Now, what are the precautions which ought to be taken by persons who practice this branch of the profession? We have seen that in all probability the contagion, if at all conveyed, is so either by the clothes or the hands of the practitioner, from a patient laboring under the disease, or from the dead body. I would suggest the following:—1. That when engaged in close attendance upon a patient laboring under puerperal fever, the medical attendant should, if possible, procure a substitute to attend any new case of labor; but if he cannot, then, 2. He should, before such attendance, change every portion of his dress, and wash his hands in a solution of chlorate of lime, as well as in soap and water. 3. Dr. Semelweiss' suggestion of paring the nails close, is worth adopting, as particles of morbid matter may easily be concealed underneath, and applied to the mucous membrane of the vagina. 4. At the termination of each visit to a patient in puerperal fever (or in any infectious disease), the hands should be carefully washed with soap and water before leaving the room, and his clothes repeatedly changed and well-aired. 5. That if a medical man have patients in childbed, one of whom should be attacked by puerperal fever, his daily visit should be first paid to the other patients and afterwards to the puerperal case, if the distance permit of his so doing. 6. It will be wiser for any one engaged in midwifery practice to procure an asssistant to make *post-mortem* examinations for him; and if he be present, he ought not to wear the same dress in attending obstetric cases until it have been well aired. If the autopsy be made by himself, extraordinary precautions should be taken as to repeated ablution, with solution of chlorate of lime, &c.; and a complete change of dress; or perhaps, as Dr. Copland suggests, he ought to allow some days to elapse before attending obstetric cases. 7. These remarks apply to all autopsies, no matter of what disease the subject died, although they are more stringent in cases of death from puerperal fever: and also to attendance upon and dressing cases of erysipelas, diffuse inflammation, &c.

755. In treating of puerperal fever, various arrangements or classifications have been adopted to include the different forms of the disease. Thus Dr. Douglass describes three forms:—

1. The inflammatory.
2. The gastro-bilious.
3. The epidemic or contagious (typhoid).

M. Tonnellè:—

1. The inflammatory.
2. The adynamic.
3. The ataxic (irregular or nervous).

M. Martens:—

1. The inflammatory (where one organ only is affected).

M. Gardien:—

1. Angiotemic fever, strictly inflammatory.
2. Adeno-meningic; slow, insidious fever, slimy tongue.
3. Meningo-gastric; bilious derangement, yellow skin, &c.
4. Adynamic.
5. Ataxic, or nervous.
6. Fever, with local phlegmasiæ.

Dr. Gooch:—

1. Inflammatory.
2. Typhoid.

Dr. Blundell:—

1. The mild epidemic, with little peritonitic tendency.
2. Malignant epidemic, with great pain.
3. Sporadic; peritonitis, limited.

Dr. John Clarke:—

1. Inflammation of the uterus and ovaria.
2. Inflammation of the peritoneum.
3. Inflammation of the uterus, fallopian tubes, or peritoneum, connected with inflammatory affection of the system.
4. Low fever, connected with affection of the abdomen, which is sometimes epidemic.

Dr. Robert Lee:—

1. Inflammation of the uterus, peritoneum, and peritoneal sac.
2. Inflammation of the uterine appendages, ovaria, fallopian tubes, and broad ligaments.
3. Inflammation of the mucous and muscular, or proper tissues of the uterus.
4. Inflammation and suppuration of the absorbents and veins of the uterine organs.

Or in other words—

1. Inflammatory puerperal fever, dependent on peritonitis.
2. Congestive, dependent on inflammation of the uterine muscular tissue.
3. Typhoid, arising from venous inflammation.

Dr. Copland, in the very valuable article in his Dictionary, treats—

1. Of the inflammatory states of puerperal fever, or inflammation —*a*, of the uterus; *b*, of the ovaria and tubes; *c*, of the peritoneum; *d*, of any two, or all of them.
2. Synochoid puerperal fever, complicated with inflammation—*a*, of the peritoneum; *b*, of the uterine veins; *c*, of the uterus and appendages.
3. Adynamic or malignant puerperal fever; *a*, simple; *b*, complicated with predominant alteration (*a*) of the blood and (*b*) of the fluids and peritoneum; (*c*) of the fluids, serous surfaces, and soft solids generally; (*d*) of the uterus, or of the uterus and appendages; (*e*) of the internal surface of the uterine vessels, substance of the uterus, &c.

756. No doubt each of these arrangements has its advantages and disadvantages, nor is it very easy to propose one free from objection. I shall take as a basis for the one I adopt, the fact, as I believe, that in nearly all cases, there exists local disease, and also that malignant puerperal fever is more than a mere local affection; in fact, an essential fever. We shall first, then, treat of the local forms of puerperal fever, such as we see it when it occurs sporadically, or in certain epidemics; and then of the malignant form, which may have for its local complications any of the preceding diseases. And lastly, I shall interpolate a section on a gastro-enteric affection of childbed, which in some of its characteristics resembles an attack of puerperal fever.

The classification will then stand thus:—

1. Puerperal peritonitis.
2. " hysteritis.
3. Inflammation of the ovaries and uterine appendages.
4. Uterine phlebitis.
5. Inflammation of the absorbents.
6. Gastro-enteric fever.

Or in another aspect, we may say—

1. Inflammatory fever.
2. Gastric fever.
3. Malignant fever.

I am very far from thinking this arrangement perfect; one very obvious defect, but which I see no way of remedying, is that several of the local affections which are here separated do in practice occur together. Thus, hysteritis or ovaritis is often accompanied by peritonitis, and uterine phlebitis may occur with hysteritis, or inflammation of the absorbents. Still, however, there is a broad line of distinction in many epidemics; and I must only guard against the defect of such arrangement by stating strongly at the commencement, that I do not intend to describe the varieties as essentially and widely distinct

Peritonitis in 193.
Alterations of the uterus and appendages in
Combined lesions of uterus and peritoneum in 165.
Peritoneum alone affected in 28.
Uterus alone in 29.

In 266 cases, according to M. Dugès—
The uterus was affected in three fourths;
The ovaria in one-seventh of the cases.

There was perforation of the stomach	—10	cases in	266.
Inflammation of the stomach and intestines	—4	,,	266.
Pleuritis, single or double . . .	40	,,	266.
Pericarditis	6	,,	266.
Arachnitis	1	,,	266.
Purulent deposit in muscles . . .	8	,,	266.

I shall now proceed to consider the special forms of the disease.

757. I. **Inflammation of the Peritoneum.**—This variety of the disease was the one chiefly observed in the epidemics in London, Aberdeen, Leeds, Edinburgh, and Dublin; and it has occurred in other epidemics. It appears to affect the peritoneum covering the uterus primarily, and to extend from thence to the remaining portion of the serous membrane, involving not unfrequently the uterine appendages.

The attack may commence even before delivery, of which I had an example; but more generally from twenty hours to three days afterwards. Dr. Joseph Clarke mentions that two of his patients were ill during labor; three were attacked on the second day, one on the fourth, and one on the ninth day. In the epidemic of 1788, one was attacked four days before delivery, one on the day of delivery, eight on the second day, and three on the third.*

758. *Symptoms.*—The first symptom is either sudden rigors, pai
or some variation in the pulse. Dr. Campbell has remarked that i
some who were attacked early, the sinking of the pulse which tak
livery in ordinary cases, was absent, and its frequen

and during the course of the disease it may not exceed the natural standard. To these symptoms succeed nausea, vomiting, pain in the head, and increased sensibility of the uterus. In some cases the uterine tenderness (not amounting to pain) is contemporary with the rigors, or immediately succeeds them. Pain in the abdomen soon attracts notice. It generally commences in the hypogastrium, or in one of the iliac regions, gradually radiating over the abdomen. The pain may be slight or severe, continuous, or in paroxysms—the intermissions being more remarkable as the disease advances. After the remission, the pain shortly returns with increased violence. We are not, however, to consider the pain as pathognomonic of the disease, for we sometimes see abdominal pain resembling that in puerperal peritonitis, which afterwards disappears altogether. And in certain cases of undoubted puerperal peritonitis there is no pain, or pain of slight duration. I have seen five or six cases of intense puerperal peritonitis (as shown by dissection) in which there was neither pain nor tenderness.

Dr. Ferguson has carefully estimated the frequency of this symptom, and he has found that

The number	of his patients	who had no pain was . .			19
"	"	who had pain for	1	day was	51
"	"	"	2	"	48
"	"	"	3	"	22
"	"	"	4	"	18
"	"	"	5	"	6
"	"	"	7	"	5
"	"	"	8	"	4

The pain from the first is accompanied with more or less sensibility of the hypogastrium; this tenderness becomes exquisite as the inflammation extends, until at length the patient cannot bear the slightest pressure; even the weight of the bed-clothes is intolerable, and the tension and pressure of the parietes are avoided, by lying on the back, with the knees drawn up. The enlarged uterus can frequently be felt through the integuments, above the brim of the pelvis, at an early stage of the disease.* Shortly after the disease is established, the abdomen becomes tumid and tympanitic, and in some cases, at a more advanced stage, the presence of effusion may be detected. The air which gives rise to the tympanites may be contained either in the intestines or the peritoneal sac.

The effect of the disease upon the lochial discharge varies; in the number of the patients lose

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* Campbell on Puerperal Fever, p. 33. Lee on Puerperal Fever, p. 21.

to give them suck.

The pulse is uniformly high throughout the disease, varying

110 to 140 in a minute, and towards the termination to 160 and upwards. It is generally small and wiry, but is liable to modifications, from treatment, and from the peculiar character of the epidemic.†

The tongue is generally coated with a whitish film in the centre, but red around the edges. In some few cases, it is dry and brown in the centre, with a yellowish or white fur at the edges. The thirst is considerable at the beginning and towards the termination of the disease, but much less during its height. The stomach is disturbed at a very early period, and the nausea and vomiting continue at intervals throughout the attack. At first, the matter voided is merely the contents of the stomach, mixed with mucus; afterwards bilious matter is ejected; and lastly, green, brown, and black fluids, constituting what is called the "coffee-ground vomit." Mr. Murray found this to consist chiefly of resin, together with mucus, gelatine, phosphate of lime, and muriate of soda in small proportions.‡

In many cases the irritation extends throughout the intestinal canal, and diarrhœa is the result. This, by some, has been held to be a favorable symptom, but by others as an aggravation of the disease; and certainly my own observations would rather incline me to the latter opinion. The dejections vary in character and consistence, becoming very dark and fœtid towards the termination in bad cases.

The urine is generally turbid or high coloured, and somewhat diminished in quantity; and the patient has frequently some difficulty in voiding it. Dr. Hulme observes that "The patient at first often complains of some difficulty in making water, and discharges it in small quantities; but this usually goes off after having a stool or two The urine, after standing for some time to settle, generally appears a brown colour, and deposits a crude sediment, half-floating at the bottom of the glass."[*]

Throughout the course of the disease, the skin is much about the natural heat, and dry, but as a fatal termination approaches, it becomes cold and clammy.

The intellectual faculties are rarely affected. Dr. Gordon, indeed, mentions that delirium was occasionally, but rarely, observed in the epidemic he describes; but in general the patient retains her consciousness and senses until very near the end. The countenance is very much changed: the features are all drawn upwards, and expressive of great anxiety and suffering. A patch of crimson, like a hectic flush, is sometimes observed on one or both cheeks, and is an unfavorable symptom.

Such are the characteristic symptoms as laid down by those who have had most experience in the disease. Its duration will vary according to the virulence of the epidemic: some cases have terminated fatally on the first, second, or third day of the attack; others from the fifth to the tenth. Dr. Denman fixes the general termination on the eleventh day; Mr. Foster, from the fourth to the sixth day: Dr. Leake, the tenth or eleventh day; Dr. Hulme, the seventh or eighth day; Dr. Hamilton, the fifth or sixth day; Dr. Gordon, on the fifth day; Mr. Skey, within a week; and M. Bang, on the sixth day. Dr. Campbell states that the greater number of his patients died on the fifth day; one died on the first; three on the second; three on the third; four on the fourth; seven on the fifth; one on the sixth; two on the seventh: and one on the eighth day.[†] Dr. Blundell states that it may destroy the patient within twenty-four hours from the commencement of the disease; or that "three or four days, not to say five or six, may be the average duration of the affection."[‡] Dr. Collins thus gives the result of his experience: "In fifty-six deaths in the hospital, it proved fatal at the following periods from the date of the seizure, viz. two in twenty-four hours, and one in twenty-seven; one in thirty-six: nine on the second day; fifteen on the third; thirteen on the fourth; four on the fifth; five on the sixth; three on the seventh; two on the eighth; and one on the eleventh day."[§]

759. *Morbid Anatomy.*—The peritoneum may, in some few cases, exhibit no signs of inflammation; but generally it is found more or less vascular, especially that portion of it covering the uterus. Dr. R. Lee has given it as his experience, that "puerperal peritonitis commences in the peritoneal covering of the uterus, and extends from thence with greater or less rapidity, according to the severity of

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[*] On Puerperal Fever, p. 9.
[†] On Puerperal Fever, p. 50.
[‡] Obstetricy, p. 741.
[§] Pract. Treatise on Midwifery, p. 384.

the attack, to the whole peritoneum. In some cases, the inflammation is confined to the uterus, and it is generally most severe in this situation, or in the parts immediately surrounding that organ; even when it has extended to the other viscera, and affected them most severely, the peritoneum of the uterus invariably exhibits signs of recent inflammation. The lymph, is for the most part, thrown out in thicker masses upon the uterus than in any other situation; and this viscus seems always to suffer in the greatest degree. In the cellular membrane, under the peritoneum, serum and pus are also not unfrequently found deposited. The cellular tissue also, which surrounds the vessels of the uterus where they enter and quit the organ, not unfrequently contains some serous or purulent fluid, and the same appearance has been observed in the cellular membrane connecting together the muscular fibres."*

Dr. Collins states, that "in thirty-seven of the fifty-six women who died, the following *post-mortem* appearances were discovered:—the abdomen being ostensibly the seat of the disease, the morbid appearances were chiefly found there; however, in *seven* we observed fluid effused into the thoracic cavities, similar in appearance to that met with in the abdomen. Effusion of fluid, though differing in character and quantity, was invariably found to have taken place. In *twelve*, it seemed to be a serum of a straw color; in *eighteen*, it was sero-purulent, something of the consistence of thick cream; and in *seven* it appeared bloody-serum, with quite a glutinous feel when rubbed between the finger and thumb. In these latter cases, which rapidly proved fatal, there was no lymph whatever found; whereas, in the other varieties, it was usually found deposited in large quantities, particularly in the vicinity of the uterus, but often over the entire surface of the intestines and abdominal serous membrane. In almost every body examined, the peritoneum exhibited great increase of vascularity; nor could we discover in any instance that the inflammation seemed to penetrate deeper than this membrane. The uterus, in a great majority of cases, was quite natural in appearance; in some, it was soft and flabby; and in a few, unhealthy matter was found in its sinuses. The ovaries, in numerous instances, had suffered much in structure from the effects of inflammation; being generally much enlarged, and so softened in texture as to be broken in pieces by the least pressure."†

Thus we find vascularity of the peritoneum and thickening somewhat in proportion to the duration of the disease; a layer of lymph covering the intestines and omentum, and agglutinating them together, effusion of serum, &c. to be the most general effects of this disease. These appearances may be limited to the uterus and pelvic viscera, or they may embrace the entire abdomen; in some rare cases they appear almost confined to the omentum.

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* On More Important Diseases of Woman, p. 24.

† Pract. Treatise on Midwifery, p. 398.

The quantity of serum with flocculi of lymph floating in it varies considerably, and I think somewhat in proportion to the duration of the disease. In those cases which rapidly prove fatal, we more frequently find the organs covered with a layer of semi-fluid lymph; but in more prolonged cases, in addition, we find more or less effusion. It does not vary in chemical composition from that in ordinary peritonitis. It may be clear or turbid, of a yellowish-white color, with shreds of lymph in it, resembling very much the whey produced in making cheese. In some rare cases the blood is found in the peritoneal sac, either alone or mixed with the serosity. Puriform matter is also frequently found, especially in the pelvis, around and behind the uterus, when the inflammation has apparently been most intense. It is sometimes contained in a cyst, which is apparently a concretion of the outer surface of the pus.

But the effusion of serum or pus may not be confined to the free surface of the serous membrane merely, but may occur beneath it. In an epidemic which prevailed in Dublin, Dr. S. Cusack states that "Two kinds of effusion were met with in the cells of those tissues (sub-serous and pelvic cellular tissue), one a reddish serum, occasionally so copious as to pervade not only the cellular tissue about the uterus, the pelvic cavity, and the iliac regions, but even sometimes to distend the cells of the delicate cellular tissue which connects together the two layers of the mesentery. The other species of effusion is not of so fluid a nature, resembling jelly in appearance and consistence. This also occupies the cellular tissue, and is most conspicuous where the looseness of the peritoneum admits of freer effusion. Thus the lax nature of the cellular tissue connecting the layers of the peritoneum, which form the broad ligaments of the uterus, admits of its being poured out in considerable quantities in that situation."*

760. *Diagnosis.*—1. *From after-pains, or hysteralgia.*—These affections occur soon after delivery, and diminish or disappear by the third or fourth day—about the period when the puerperal fever commences. After-pains are accompanied by a perceptible contraction of the uterus, which is absent in puerperal fever. The pulse is sometimes accelerated by after-pains, but is seldom steady in its frequency; in puerperal peritonitis it never falls below its frequency at first, but generally increases. The hypogastric tenderness in after-pains is not great, except during a pain, and it goes on decreasing; whilst in puerperal peritonitis it rapidly increases. The constitutional disturbance is incomparably greater in puerperal peritonitis, and it augments every day; whilst in hysteralgia it diminishes. The sedative, which gene-

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* Edinb. Med. and Surg. Journal, No. 98.

several points of difference. It is evidences of gastric and intestinal disorder. The tongue is flatulence, nausea and vomiting, constipation, or diarrhœa. The abdominal pain is diffused, and does not radiate from the uterus, as in puerperal peritonitis; neither is the uterus enlarged, nor tender. The abdomen may be enlarged and tense, if there be much secretion of air; but percussion will at once distinguish it from enlargement by the effusion of serum: it is rarely very tender on pressure, and gentle friction affords relief. It may occur at any period after delivery, and at first may occasion some anxiety from the resemblance of the symptoms to those of puerperal fever; but twenty-four hours will generally clear up the difficulty; the pulse falls, the milk is secreted, the lochia are not unhealthy, and the pain and distress are relieved by medicines. A little inquiry will generally elicit the fact that the bowels had been neglected previous to delivery.*

3. *From ephemeral fever, or weid.*—The commencement of ephemeral fever may excite some alarm, from its resemblance to puerperal fever; but its duration is shorter, its decline rapid, and its constitutional symptoms less severe. There is also far less abdominal irritation, and the breasts continue distended.†

4. *From hysteritis.*—The main distinction is the character and situation of the tenderness; in puerperal peritonitis, the slightest touch on the abdominal parietes causes acute torture; whereas, in hysteritis, the patient can bear pressure very well, until *we* can feel the enlarged uterus. Any increase of pressure, after the abdominal parietes are in contact with the uterus, gives acute pain. The symptoms of hysteritis are also more local.

761. *Prognosis.*—The general prognosis is unfavorable, even in sporadic cases, but still more so when the disease is epidemic.

Dr. Hulme declares it to be as bad as the plague.

Dr. Leake lost	13	cases out of	19
Dr. W. Hunter	31	"	32
Dr. Clarke	21	"	28
Dr. Gordon	28	"	77

Dr. Armstrong lost	4	cases out of	44
Dr. Lee	40	"	100
Dr. Collins	56	"	88
Dr. Ferguson	68	"	205

In the epidemic in Paris (1746), in Edinburgh (1673), and in Vienna (1795), none recovered.

Mr. Hey observes, "For some time after the commencement of this fatal malady, it proved fatal in every case that it came within my knowledge; and though a few patients recovered under the treatment which my father and I had formerly found successful with puerperal fever, yet the success was very small till the method hereafter described was fully adopted."*

Dr. Ferguson states, "If we take the results of treatment adopted in various puerperal epidemics, by various practitioners, we shall find that on a large scale, one in every three will die, with all the resources which medicine at present offers. To save two out of three, then, may be termed good practice in an epidemic season."†

If the epidemic be as severe as some which have occurred in Dublin, it would be very successful practice to save one out of three.

762. *Treatment.*—It must be borne in mind, that when any peculiar mode of treatment is advised, the character of the epidemic is the best test of its propriety. Forgetfulness of this rule has been the source of much controversy, and no slight acrimony. As Dr. John Clarke remarks, each author takes the epidemic he has witnessed as the type of all, and remorselessly condemns all treatment which does not agree with that which he has found successful. There is no question that the employment of antiphlogistic remedies, by Gordon, Hey, Armstrong, &c. was a great improvement upon the old methods, in the epidemics which they witnessed; but it is not to be taken for granted that it would have answered equally well in the previous ones. For many years past it has been found either inadmissible or injurious in the cases we have had in Dublin. The type of the disease and the state of the patient not only prohibited the use of the lancet, but indicated very clearly the necessity of a line of treatment very different, if not the opposite. Thus, in all cases, we must carefully appreciate the general constitution of the disease and the special character of the epidemic, as well as the state of the patient, in order to decide upon the most suitable treatment, with reasonable probability of success. Moreover, in cases where bleeding is admissible, it has appeared to me that the time for its beneficial use is very limited. After the disease has lasted more than from twelve to twenty-four hours, I have seen but little benefit from bleeding; and the same observations I have heard from

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* On Puerperal Fever, p. 10.

† Ibid. p. 112.

ning, and, if necessary, exhibits the buffy coat. Dr. Ashwell consid of placing the patient upright and bleeding to incipient syncope great value in puerperal peritonitis.* Should any circumstance forbid a repetition of the venæsection, a number of leeches (from 60 to 100, *Campbell*) may be applied to the abdomen, and when they fall off, the abdomen should be fomented, or covered with a light bran poultice. The fomentation, or poultice, may be repeated at intervals, as it has a very soothing effect.

This practice boasts the support of very great names—Denman, Leake, Gordon, Armstrong, Hey, Campbell, Mackintosh, Jos. Clarke, MM. Dugès and Tonnellè, Blundell, Conquest, Gooch, Dewees, Lee, Meigs, &c.; but it was recommended with limitations by Kirkland, Hull, Gardien, Douglas, &c.; and in some epidemics, as I have said, it is either inadmissible or injurious. Dr. Collins remarks, that "In fifteen only of the eighty-eight did we deem it advisable to bleed generally: seven of the fifteen recovered." "I am satisfied, however, that *in hospital*, the immediate application of three or four dozen leeches, followed by the warm bath, in which the patient should remain as long as her strength will bear it, will be found in the great majority the most judicious means of removing blood."†

After full depletion, the next most powerful remedy is *mercury*, alone or in combination with opium. Without explaining its *modus operandi*, it is sufficient to state the fact, that it has been found to exercise a remarkable influence over inflammation of serous membranes. It may be given in large doses (gr. x. every three or four hours), or in smaller ones, more frequently repeated (gr. ij. every hour); and it should be continued until an impression is made upon the disease, or until the mouth is affected, unless purging be induced. The mouth will be affected much more rapidly, and with smaller doses, if to each be added a very minute quantity o tartar emetic, say $\frac{1}{16}$th of a grain; but this will not do if there b nausea or vomiting. I am indebted to Dr. A. Smith for this sugges tion. After a decided effect is produced, the dose may be diminishe lengthened. For the purpose of preventing intestin combination is not confined to the prevention of intestinal disturbance, but that it exerts a positive and beneficial influence upon the inflammation. When the calomel acts upon the bowels, it may be omitted, and the opium alone continued; and I have seen as much benefit from it alone, as from the calomel. Some years ago, I saw a case of puerperal peritonitis, in consultation with a friend, and we administered large doses of opium (gr. j. every hour) with the greatest benefit. Since then several similar cases have occurred to me. My friend, Dr. Stokes, was the first to point out the value of opium in bad cases of peritonitis, where bleeding was inadmissible; and I have repeatedly verified his observations.

Mercurial frictions are a valuable mode of affecting the system, and for this purpose I would strongly recommend the Linimentum Hydrargyri of the London Pharmacopœia. But I may say of mercury, as I said of bleeding, that though very efficacious in many cases, there are others in which its effects are injurious, or in which it is inefficacious.

Tartar emetic was recommended by Hulme, and used by several since his time, with apparent benefit. The state of the stomach, in many cases, however, will prevent its exhibition.

Purgatives have been warmly recommended by Hulme, Denman, Gordon, Hey, Armstrong, Chaussier, Stoll; and as strongly reprobated by Baglivi, John Clarke, Cederskiol, Thomas, Campbell. "My own experience," says Dr. Ferguson, "with regard to aperients is, that whenever they create tormina, there is the greatest risk of an attack of metro-peritonitis succeeding. This so constantly occurs, that I invariably mix some anodyne—usually Dover's powder, or hyoscyamus, or hop with the purgative." If the bowels be constipated, an enema of turpentine and castor oil will be useful. The spontaneous diarrhœa is not always beneficial, but will often need to be restrained by astringents, or opiates.

Emetics were employed before 1782 by English practitioners, and in 1782 they were recommended by Doulcet, of Paris, who relied upon them exclusively, and derived from them extraordinary success. Other practitioners have also used them successfully; but they have failed so often, as to have gone out of use, especially in these countries, perhaps in consequence of our mistaking the proper cases. M. Tonnellé states that M. Desormeaux tried them with great success in 1828, but that in the next year they generally failed. In September, 1829 they succeeded, but in October and November they failed. They did not, however, appear to produce any aggravation of the symptoms. Dr. Ferguson remarks, that "The practical question, then, is, what are the cases in which the remedy is applicable? The clue has been already given, I imagine, by Doulcet himself; it is when the violence of the malady has fallen on the liver especially, and when there is early nausea and spontaneous vomiting."*

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* On Puerperal Fever, p. 204.

In the year 1814, Dr. Brennan, of Dublin, proposed the internal use of *turpentine*, which he regarded as a specific, and which in many cases was very successful. He gave it in doses of a table-spoonful at a time, in a little water, sweetened. Drs. Douglas,* J. A. Johnson, Dewees, Payne,† Kinneir, Blundell, and Waller, have found it more or less useful. Dr. Jos. Clarke, and other practitioners, tried it, but without success. Dr. Clarke observes, "In addition to the usual routine of practice, numerous trials were made with the rectified oil of turpentine, in doses from six to eight drachms; sometimes in plain water, sometimes combined with an equal quantity of castor oil. The first few doses were generally agreeable to the patient, and seemed to alleviate the pain. By a few repetitions it became extremely nauseous, and several patients declared that they would rather die than repeat the dose. In more than twenty trials of this kind, not a single patient recovered."‡ It is certainly beneficial when the intestines are tympanitic, especially in the form of enema, and as a counter-irritant to the abdomen; but I have never seen it exert any remarkable influence upon the disease.

At an advanced stage of the disease, the *blisters* are very useful. They may be appplied to any part, or the whole of the abdomen, and dressed with mercurial ointment.

Recolin, Dance, and Tonnellê have recommended injections of warm water into the vagina and uterus, three or four times a-day. Drs. Lee and Campbell have tried them in a few cases with decided advantage. I have frequently syringed the vagina with warm water with benefit; but I never threw the injections into the uterus.

Hip baths have been found useful by Desormeaux and Collins; but the pain of moving the patient is an insurmountable obstacle to their frequent use.

Loeffler and Ceeley of Aylesbury, have seen good effects result from the application of cold to the abdomen.

The irritation of the stomach may be allayed by effervescing draughts, containing a few drops of laudanum, or by a few grains of the subcarbonate of potash, dissolved in aq. menth. virid.

A selection of these remedies will afford a tolerably good chance to the patient, if we are called early; but in many instances we shall fail, either in cutting short the disease, or in curing it ultimately. It is of the greatest importance, however, that all the means at our command should be tried perseveringly, and that our forebodings should not be allowed to diminish our exertions.

763. II. PUERPERAL HYSTERITIS.—Inflammation affecting the

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* Dublin Hosp. Reports, vol. iii.

† Ed. Med. and Surg. Journal, vol xxii. p. 53.

‡ Letter to Dr. Armstrong.

proper tissue of the uterus has been frequently described. It is mentioned by Astruc, Vigarous, and Primrose. Pouteau observed it in the epidemic of 1750. Ricker and Boer have described it under the term *Putrescirung* or *Putrescenz der Gebärmutter*, and cases of it have been recorded by Smith, Danyau*, and Tonnellè.† In certain epidemics it is tolerably frequent, occurring either alone or as one among other local affections. Thus, Tonnellè, in 222 fatal cases of puerperal fever, found 79 cases of metritis, 29 of superficial softening, and 20 of deep softening. M. Dugès found the uterus affected in 3 cases out of 4; and Dr. R. Lee states, that in 45 dissections, the muscular coat of the womb was softened in 10 cases.

This form of the disease may be the only affection in certain cases of puerperal fever, or it may be the most prominent, though not the sole affection, or it may be only one of several forms of local disease.

764. *Symptoms.*—These will vary somewhat, according to the character of the epidemic, and a great deal according to the severity of the attack. In the *milder form*, where the disease does not proceed so far as to disorganize the uterine tissue, I have generally found it commence, on the third or fourth day, with rigors, followed by heat of skin, thirst, and headache. The pulse rises to 100 or 110; the tongue is dry and furred; the countenance expressive of suffering but without the anxious, pinched, drawn-up character we find in puerperal peritonitis. The patient complains of uneasiness, pain and tenderness in the uterine region, and upon examination we find the uterus more or less enlarged, hard, and tender. The abdomen, at first, is soft and without any tenderness, which is first felt when we perceive that we are making pressure upon the enlarged uterus. As the disease advances, the abdomen often becomes tympanitic, and in some cases the inflammation extends to the peritoneum.

The state of the lochia is by no means uniform; in many cases they are diminished or suppressed; in others, their character is changed, and they become offensive; in other cases, again, they are quite unaltered. The secretion of milk is generally arrested. There is occasionally another symptom, which I think is more marked in hysteritis, than in any other variety of puerperal fever, viz. dysuria, which causes much distress, and which may amount to retention, and this especially, as Dr. Dewees has remarked, in cases which have required instrumental aid.

The *severer form* of hysteritis, as described by Dr. R. Lee and M. Tonnellè, is ushered in by rigors, followed by increase of heat and headache. There is occasionally delirium, and other evidences of cerebral disturbance. The countenance is pallid, anxious, and disturbed; the skin, at first hot and dry, becomes cold, with sometimes a blue or yellowish tinge. The respiration is hurried, the pulse rapid and feeble, with great prostration of strength. The tongue soon becomes foul, and the lips and teeth covered with sordes. More or less of nausea, vomiting, and diarrhœa are generally present. The patient complains of pain at the hypogastrium, where the enlarged uterus may be felt, and which is very tender on pressure. The lochia are diminished, or altogether suppressed, and frequently they become fœtid or acrid.

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* Repertoire Gén. d'Anatomie, vol. v. p. i.

† Essai sur la Metrite Gangreneuse, 1829.

This form presents a very diffierent aspect to the former. It is quite evident, that in addition to the local affection common to both, the constitution is deeply involved, either in consequence of its previously impaired condition, or owing to some peculiarity of the epidemic, or in consequence of the local disease having produced a more rapid and profound impression on the general system.

765. Hysteritis may terminate—1. In *resolution:* as is the case with the mild variety which I have described, and in which there is a gradual subsidence of the symptoms.

2. In *abscess;* which may open into the uterine cavity, or into the peritoneal sac. I had an opportunity of seeing a case of the latter kind, some time ago, in a patient, whose case has been published by my friend, Dr. Beatty.

3. In *softening*. This termination was observed 49 times by M. Tonnellè, and 10 times by Dr. R. Lee. "Among the 222 fatal cases of puerperal fever observed by M. Tonnellè, in the Maternite, at Paris, in 1829, there were 49 in which the muscular tissue was found softened. M. Tonnellè states, that softening of the uterus, after showing itself frequently in the first half of the year 1822, and particularly about January, disappeared entirely in the months of July and August, which were characterized in a remarkable manner by the frequency of inflammation of the veins. Afterwards, it began to rage anew with great violence in September and October, and again disappeared in the last two months, during which time the mortality was inconsiderable."*

4. In *gangrene*.—This has been described by M. Boer, in his valuable work,† and by Ricker,‡ and noticed by Siebold, Busch, Boivin and Dugès, Danyau, &c.

766. *Morbid Anatomy*.—The peritoneal coat of the uterus very often exhibits marks of inflammation. It may be vascular, and coated with lymph, or softened. The size of the womb is manifestly increased, and its substance soft and flabby. Small collections of purulent matter are sometimes found in its parietes, which in these spots exhibit various degrees of absorption. Boivin and Dugès observe that "Pus is sometimes found even in the substance, and generally

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* Lee on the more important Diseases of Women, p. 38.

† Naturliche Geburtshulfe, &c. vol. i. p. 202.

‡ Siebold's Journal, vol. ii. p. 62.

nearer to the exterior surface than the interior; thus pus collects into distinct abscesses, from one to five inches in diameter, sometimes into a simple or multilocular deposit, with a greenish or viscous appearance; at other times it is infiltrated into the fleshy fibres, imparting to them a yellow reddish color, perceptible through the peritoneum. In this latter case tumors form, which are sometimes hard and projecting, upon the fundus uteri; at other times flattened, soft, and broad; these latter come further down towards the lateral parts, and often form a continuation, together with purulent infiltrations, between the laminæ of the broad ligaments with the cellular tissue of the pelvis and the substance of the ligament of the ovarian vessels, frequently giving rise to those large abscesses of which we have already spoken."* The substance of the uterus may be in patches, reduced to a mere pulp, of a dark purple, yellowish, or greyish color, and occasionally of a bad color. This softening generally commences at the inner membrane, and penetrates more or less through the substance of the uterus. According to Dr. Ferguson's experience, "The point of insertion of the placenta is the most ordinary seat of all uterine lesion, whether of abscess, softening, or phlebitis; the next point, the large and congested, lead-colored cervix uteri." False membranes of coagulable lymph are found on the lining membrane of the cavity, mixed with blood and lochia.

M. Tonnellè states that the disease in Paris exhibited two distinct forms, "the softening of the uterus, properly so called, and the putrescence. In the first form, the softening affected only the internal membrane of the uterus, and it presented itself under the appearance of irregular superficial patches, of a red or brown color, which occupied almost all the points of this surface; its limits were not determined, the diseased tissue passing by irregular gradations or shades into the healthy tissue. In the second species the softening extended deep into the substance of the uterus. The tissue of this organ was so softened that the fingers could not seize it without passing through it in all parts. The superficial softening was combined almost always with some alteration of structure—peritonitis, metritis, or uterine phlebitis; and it did not appear to M. Tonnellè that the existence of these had a very sensible influence on the progress of the symptoms. The softening in the second degree was also sometimes combined with other disorders; but it formed usually the principal alteration, often the only one, and invariably impressed upon the disease the most decided typhoid character."† MM. Boivin and Dugès,‡ and M. Dupley, have noticed similar changes, and the latter author especially has accurately described the circumscribed mortification found on the internal surface of the uterus. The cause of this peculiar softening has been much debated, some attributing it to a specific action of the parts, or to alteration of the blood, and others to inflammation; in some cases, it appears to be the result of inflammation, but in others there is no evidence of previous or concurrent inflammatory action.

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* Boivin and Dugès: Diseases of the Uterus, &c. trans. p. 326.

† Lee on Diseases of Women, p. 38.

‡ Diseases of the Uterus, &c. trans. p. 325.

767. *Diagnosis.*—When complicated with peritonitis, the diagnosis is very difficult; but when the uterus is alone affected, it is easier to distinguish it:—

1. From *after-pains, weid, &c.*, it differs very widely in its persistence, and in the gravity of the accompanying constitutional symptoms.

2. From *puerperal peritonitis.* The most marked distinction between them is the tenderness on pressure, which, when the peritoneal sac is inflamed, is general and superficial, rendering the slightest pressure intolerable; whereas, in hysteritis, the abdomen will bear pressure very well all over, *until we ourselves feel that we are pressing the enlarged and hardened uterus.* The only exceptions to this rule I have met with are those cases of peritonitis where there is no abdominal tenderness. The pulse in hysteritis is weaker, and the patient sinks more rapidly than in peritonitis, the lochia are more frequently fœtid, and the entire symptoms have a more marked typhoid character in the severer form.

768. *Prognosis.*—In the milder form many cases recover; the uterus remains hard and tender for some time, but the pain and tenderness diminish, the pulse becomes quieter, the tongue clean, the bowels regular, and the appetite returns. The preservation or reappearance of the natural character and smell in the lochia is a valuable sign, and a still better is the continuance of a good secretion of milk.

In the severer form, especially when it prevails epidemically, the prognosis is very unfavorable, almost every well-marked case proving fatal, and the patient dying with symptoms of a bad typhoid character.

769. *Treatment.*—The reader will bear in mind the observations I have already made as to the modification of treatment required by the general constitution of disease at any given period, the peculiar type of the prevailing epidemic, and the state of the patient. As a general rule, I think patients bear bloodletting better in the mild form of hysteritis than in some of the other varieties, but even here I have not been able to use the lancet freely of late years.

Venesection, however, may be necessary and proper, and the earlier in the disease we have recourse to it the better. If inadmissible from any cause, we shall, I think, always derive advantage from leeches applied over the uterus, followed by constant poultices and fomentations.

Calomel and opium are of great value when they act kindly. I have rarely seen a patient die who was fairly under their influence, but it sometimes happens that diarrhœa is induced, and then we ust omit the calomel, and apply mercurial frictions, with opium iven internally.

When the acute stage is over, very great benefit will be derived rom repeated blisters to the abdomen, and by covering it with a layer f prepared cotton wool, the bowels must be kept free, but by the entlest means, active purging seeming to aggravate the symptoms; nd at all events it is an obstacle to the use of mercury.

No remedy that has been tried seems to have much power over the everer form when it prevails epidemically. If antiphlogistics are dmissible at all, which I very much doubt, it must be in the earliest tage, but I should have more faith in counter-irritation and the iberal exhibition of tonics, such as bark, with wine, and, if necessary, pium, just as they are given in typhus fever.

770. III. Inflammation of the Uterine Appendages.—Under this head is included inflammation of the serous membrane and proper tissue of the ovaries, fallopian tubes, and broad ligaments. It is not always possible to separate these affections from inflammation of the peritoneal cavity, with which they are so often conjoined; but there are cases in which they exist alone, or predominate in a striking manner, or where the consequences of the disease continue longer in these parts. Puzos has described such cases by the term, "*Depots laiteux dans l'hypogastre*," and Levret, as "*Engorgemens laiteux dans le bassin.*" The observations of MM. Husson and Dance likewise prove that this is a frequent, and often fatal, termination of inflammation of the peritoneal coat of the uterus and its appendages. M. Tonnellè found fifty-eight cases of inflammation of the ovary and four of abscess, out of one hundred and ninety cases of puerperal fever.

771. *Symptoms.*—As inflammation of the uterine appendages is generally combined with more or less inflammation of the peritoneal cavity, the symptoms will present many of the characters of peritonitis, but probably in a moderate degree; and as they subside, or as the local affection becomes more developed, we shall detect mischief in the situation of these appendages. The pain is less acute and less universal than in general peritonitis; it is seated in one of the iliac fossæ or the lateral portion of the hypogastrium, from whence it may radiate to the groin and down the thigh. A careful examination will detect a degree of hardness in the part, compared with the rest of the abdomen, perhaps a definite swelling with great tenderness on pressure. Percussion, which probably yields a clear sound over the abdomen generally, gives a very dull sound over this portion.

An *internal* examination will often throw light upon the seat of the disease; the vagina will be found hot and painful at its upper part, and the tumefaction may be detected through its lateral parietes.

The disease generally commences with rigors, thirst, headache, quick pulse, &c. presenting an array of constitutional symptoms very similar to those in peritonitis, which, therefore, I need not repeat. If the disease be extensive, there is generally observed much exhaustion following the first stage, and the attack may prove quickly fatal.

Should the disease not prove fatal, the attack may terminate—

772. 1. In *resolution*, without the organs being seriously injured; or in some cases adhesions may be formed between contiguous portions of the serous membrane, which, though for the present innocuous, may be injurious subsequently. Boivin and Dugès relate a case in which anteversion was caused by these adhesions. If the fallopian tubes have been involved, the cavity of one or both may be obliterated, or they may become adherent to some neighbouring part, so as to prevent altogether their ordinary functions.

2. In *suppuration*. Matter may form in either ovary or broad ligament, or a more extensive pelvic abscess may be formed, including these organs and the neighbouring tissue. The matter may escape into the peritoneum, and excite fatal inflammation; but this is comparatively rare, or the abscess may open into the bladder, vagina, or rectum, or make its way to the surface of the abdominal parietes. Many examples of each are on record, and I have myself seen most of them, but in my experience the opening has been most frequently into the rectum.

773. *Morbid Anatomy.*—In some cases we find, on dissection, that the disease has been confined to the serous membrane, presenting similar phenomena to those already noticed—thickening, effusion of lymph or serum, &c. The broad ligaments, fallopian tubes, and ovaria, are red and vascular. The morsus diaboli is of a vivid red color, and sometimes softened, and in its cavity, or under the peritoneum, deposits of pus may be discovered. Dr. John Clarke states that "Inflammation is often observed running along the fallopian tubes, which, when cut open, will be seen loaded with blood. The ovaria, too, are often affected in the same way. Pus is often found in the cavity of the fallopian tubes, and also in the substance of the ovaria, which are in some cases distended by inflammation and matter, so as to equal in bulk a pigeon's egg."* Effusion of serum or purulent matter may also be found between the folds of the broad ligaments.

The ovaria may be imbedded in lymph, the product of inflammation of their serous coat. Sometimes they are swollen, red, and pulpy. One or both of these organs may be affected.† Dr. Gordon mentions that in his cases of puerperal, the right ovary was always diseased, and the left healthy. Upon laying open the ovaries, their structure ll be found more or less diseased. There is a great increase of scularity, and frequently a softening of their proper tissue. In a w cases it is utterly disorganised. Blood is sometimes effused into e Graafian vesicles, so as to destroy their texture. Pus may be und in small masses throughout the ovary, or that organ may be duced to a sac full of purulent matter, which may escape in different ays, as already noticed.*

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* Essays, p. 63.

† Ferguson on Puerperal Fever, p. 38.

774. *Diagnosis*—The situation of the pain and tenderness, the ullness on percussion, the slight increase of hardness, and the results f an internal examination, are the only grounds of diagnosis during he earlier acute stage. If, however, the disease continue, and do not erminate in resolution, these symptoms become more marked, and we annot easily make a mistake as to its nature and seat.

775. *Treatment.*—In some cases venæsection may be necessary, but nore commonly leeches to the part will be sufficient; they should be n sufficient numbers, and may be repeated if necessary. After the eeches fall off, a poultice, hot, soft, and sloppy, should be constantly pplied, not merely to encourage the bleeding, but for its soothing ffect upon the inflamed parts.

Calomel and opium may be given to a moderate extent, if the bowels are not irritable during the acute stage. Vaginal injections of warm water, two or three times a-day, and hip-baths occasionally, will be found very soothing and grateful.

If the disease persist, and matter form, it must be treated in the way I shall presently describe.

776. The foregoing description applies to those cases which occur as a variety of puerperal fever, in connexion, it may be, with other local affections, and during an epidemic: but inflammation and abscess may occur after delivery, independent of an epidemic, and with no other complication: nay, it may happen to married women who have had no children, and even to virgins. I hope the reader will pardon the irregularity, if, in order to complete this subject, I introduce here a brief summary of the peculiarities of the disease in its more isolated and chronic form.

As I have just observed, this species of inflammation of the uterine appendages may occur, though rarely, independently of pregnancy and labor, but far more frequently after labor, and at varying intervals; the first intimations being perceived in some cases from three to ten days after delivery, and in others not until the lapse of some weeks.

777. *Causes.*—It is very difficult to assign any special cause for this attack. It may follow blows, falls, or a fright; but it is more equently the result of cold or of excessive sexual intercourse. From e coincident suppression of the milk or lochia, it has been frequently

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* Lee on Diseases of Women, p. 26.

1. In certain cases there

uneasiness, perhaps, but not amounting to pain, in
region, and upon placing the hand on the spot, a tumor is detected.

2. Or, after favorable convalescence for some days, just as the usual term of our attendance expires, the patient experiences a slight febrile attack, with some shooting pains in the abdomen, which subside after a time, though the fever continues without apparent cause, until, in the course of time, the local disease developes itself.

3. Again, in other cases, the attack is purely local, and its nature pretty evident; from the beginning there is pain in one or other iliac region, tenderness, and shortly after, tumefaction, with fever.

4. Lastly, the affection may at first assume the character of a more general affection of the peritoneum, the pain extending over the abdomen, occurring mainly in paroxysms, with tenderness on pressure and fever; but by and by the general tenderness and extended pain subside, and become, as it were, localized, by which the character of the attack is made evident.

779. *Symptoms.*—Having thus briefly alluded to the various modes in which the disease commences, I prefer taking the symptoms separately, in the order of their importance and prevalence, rather than in that of their succession.

1. The presence of tumefaction or of a distinct tumor, is invariable; it occurs in all cases, and characterizes the disease. It may be found completely above Poupart's ligament, and the linea ilio-pectinea, sometimes occupying one iliac fossa entirely, and even extending upwards as high as the umbilicus, and forwards to the linea alba; or it may be situated more deeply in the pelvis, just reaching to Poupart's ligament, protruding the groin, and from its fixedness giving the impression of being firmly connected with these parts. In the former case, the tumor is larger, more defined, and far more movable; in the latter, it is rather undefined, immovable, and more painful. In both it is equally hard; in fact, as hard as a stone until suppuration commences; and equally tender on pressure. If a vaginal examination be made in the former case, we do not always discover any change; the

cool, no tumefaction may be detected, and movement tumor in the groin, and in these cases the uterus cannot be moved without acute pain.

2. Although the period at which it may be developed varies, yet sooner or later pain is an accompaniment of the disease. It maintains, as it were, its seat in the tumor, from whence stings of pain radiate in all directions. When the tumor is high, that is, above the brim of the pelvis, the pain is more limited to the tumor: when situated in the pelvis and groin, it extends across that cavity, down to the anus, to the back, and down the thigh. In these cases it is almost always difficult, in some cases quite impossible, to straighten the thigh, so as to stand upright. Walking too, is both difficult and painful.

3. In these latter cases, also, when the tumor occupies a portion of the pelvic cavity, we often find the patient distressed by tenesmus, and a desire to make water, the consequence, probably, of an extension of the irritation to the bladder and rectum. Occasionally, when the tumor is large, it offers a mechanical impediment to the functions of these viscera, and the patient may suffer from dysuria, or be unable to evacuate the intestinal canal.

4. The amount of fever, as well as the time of its setting in, varies. In some cases it precedes or accompanies the first local symptoms; in others, it supervenes after the tumor has been detected some time. In a few cases it is almost confined to the evening, and during the process of suppuration there are, in almost all cases, evening exacerbations. The pulse ranges from 90 to 100; the tongue is loaded, the skin hot, the thirst considerable, and the urine high colored. The appetite is always bad. These symptoms are somewhat mitigated, or at least the patient suffers less, in cases not connected with parturition.

780. *Terminations.*—After being fully developed, and running on even for a considerable time, the disease may terminate:

1. *In resolution.*—This most frequently occurs with cases in which the tumor is above the brim, and limited in extent; and in such, we find the pain diminishing and ultimately ceasing, the tumor first becoming less tender, then less in size, until at length it disappears. This process will occupy from one to three months.

2. *In abscess.*—When suppuration takes place we can generally feel a degree of softening, with an obscure sense of fluctuation in the tumor, either externally or internally; the patient complains of more throbbing, and occasionally of rigors, and by degrees (if not anticipated) the coverings are thinned, and the matter may escape—

a. Externally, through the abdominal parietes covering the tumor.

b. Into the vagina, through which the matter escapes.

c. Into the intestinal canal, and especially the rectum, with evacuation of matter per stool.

d. Into the bladder.

e. Into the peritoneum, where it gives rise to peritonitis, always alarming, but not always fatal.

f. Into the surrounding cellular tissue, where it may burrow until it finds an outlet.

The matter may be evacuated by any of these "routes;" and if the opening be sufficiently large, the sac may be emptied, and the abscess fill up and heal. But if the opening be small, the discharge may continue for an indefinite length of time, the opening remaining fistulous, and the cure being proportionably difficult. I have repeatedly seen the matter evacuated by the three first ways, and I think equally frequently. I have also seen it pass into the bladder, but very rarely. I have never yet seen it evacuated into the peritoneal cavity, and I cannot but think it very rare.

3. The extent of the disease, or the secondary affections caused by it, may prove fatal after an indefinite length of time.

781. *Diagnosis.*—A good deal of light will be thrown upon the diagnosis, when the disease occurs within a reasonable time after parturition, and especially when the patient has suffered from abdominal pain: in such cases, if we discover a tumor in one of the iliac fossæ, with tenderness and pain, we shall have adequate grounds for diagnosticating this affection.

If, however, the attack occur independently of child-bearing, or at a considerable interval afterwards, there may be difficulty in distinguishing between it and some of the chronic organic diseases of the ovary, especially when the tumor is above the pelvic brim: our safest guide, probably, will be the amount of pain and constitutional disturbance, which is much greater in the disease I have been describing.

I have known this affection mistaken for sciatica; and when the tumefaction is mainly confined to the pelvis, and pressure is made upon the nerves issuing from that cavity, the pain may be limited to the track of the nerves, so as to deceive any but a careful observer. However, a minute investigation will probably enable us to trace the pain into the pelvis, and then an external, and especially an internal, examination will at once reveal the cause of the pain. The flexion of the thigh, which alone might also mislead, will of itself lead to an examination of the groin, and so to the detection of the tumor.

782. *Treatment.*—The indications of cure are, 1, to procure resolution of the tumefaction; or, 2, to promote suppuration and evacuation of the matter.

1. If we are called in at an early period of the attack, it is often possible to arrest its progress, as has been well remarked by Dr. Doherty; nay, even where the disease has lasted some time, as in the cases mentioned by Puzos, it is in some cases quite possible to procure resolution. For this purpose Mauriceau, and the author just named, advise repeated venæsection, with purgatives, alteratives, absorbents, &c. I believe that the repeated application of leeches will be found more effectual at less expense of strength. A

dozen should be applied over the tumor, followed by bran poultices, and repeated if necessary, *i. e.*, if the pain and throbbing be not relieved. If we succeed in arresting the progress of the inflammation, a succession of small blisters will be of great use. Fomentations, and an occasional hip-bath, also afford great relief to the patient; but still more comfort is derived from vaginal injections of warm water, twice a-day.

Internally, we may exhibit mercury in small doses, perhaps even so far as to affect the gums, though this is not generally necessary, and an occasional purgative; but my experience has led me to the conclusion that brisk purgation is not beneficial; it appears to augment the local irritation, and certainly increases the pain. If the pain prevent sleep, an opiate may be given. When the disease shows signs of retrocession, I have seen benefit derived from an application of the emplastrum hydrargyri. The diet should be nutritious, but bland and unstimulating.

2. If, however, notwithstanding the prompt and sedulous use of the means I have indicated, the disease should not yield, we may be sure that suppuration will take place, and our object will then be to promote this by poultices and fomentations, constantly applied.

The formation of matter will sometimes be indicated by rigors, but in many cases it is by the touch only that we can recognise this occurrence. I cannot too strongly impress upon my readers the advantage of making an opening into the abscess when it is possible, and so deciding the course which the matter is to take, instead of leaving it to burrow and make an opening in some dangerous situation. The best situation for our incision, if the case admit of it, is through the abdominal parietes; the next, through the wall of the vagina. If, from the high situation of the tumor, we fear that, when opened, the matter may escape into the peritoneal cavity, we might adopt the method so successfully practiced in abscess of the liver by the late Dr. Graves, and cut down to, but not through, the peritoneum, and then apply poultices, with little doubt but that the matter will ultimately make its appearance through the wound. Should the abscess open spontaneously, we must counteract, as well as we can, any unpleasant consequences which may result; but, whether opened spontaneously or by the knife, we must endeavour to empty the sac, and to secure a free exit for the matter as it is secreted, by which means we shall avoid the prolongation of the disease, and all the distress of a fistulous opening. When the abscess points into the vagina, it is sometimes difficult to tell whether it has opened or not, from the small size of the orifice, and in such cases the microscope may be of great use. Very lately I was able to decide that an abscess had broken and commenced discharging, by the presence of pus corpuscles in the vaginal discharge. When the matter has been fairly evacuated, the diet must be generous, and a full share of wine or porter allowed.

in 45 cases, had 24 of uterine

784. *Causes.*—Dr. Robert Lee considers that it may mechanical injury to the uterus, either during the labor, or by the force used to extract the placenta. "Uterine phlebitis," he says, "appears to result from mechanical injury inflicted on the uterus by protracted labor; from the force required for the extraction of the placenta in uterine hemorrhage; from retained portions of the placenta undergoing decomposition in the uterus; the application of cold, and, perhaps, of contagion; or from any of the causes which produce the other varieties of uterine inflammation. M. Dance considers deranged states of the lochia to be a frequent cause of the disease; but these are consequences, and not causes, of uterine phlebitis."† It may follow after hemorrhage, or arise from cold, or the decomposition of retained portions of the placenta. It may be excited by any of the causes of the other varieties of puerperal fever. Dr. Bartsch observes, "As to the *causes* under which uterine phlebitis was developed, we found it occurring most frequently—1. In women who approached the critical age of life, especially if they were primiparous. 2. In women affected with varicose tumors of the thigh, and external genital organs. 3. In females who, during pregnancy, were submitted to the influence of depressing passions—fear of exposure, jealousy, sorrow, &c. 4. In individuals who, from the symptoms they presented, had frequently employed abortive remedies. 5. From mechanical injury of the uterus during pregnancy, especially if it were followed by abortion. 6. In females subject to chronic disease, as cough, difficult menstruation, hæmorrhoids, fluor albus, chronic diarrhœa, and constitutional syphilis. 7. After flooding, during or after delivery, especially from placenta prævia, after difficult labors, after obstetrical operations, especially those requiring the introduction of the hand into the uterus. 8. Finally, the greater number of cases occurred in the months of February, March, April, and May, in females who, the year before, had been attacked by "la grippe."‡

785. *Symptoms.*—In women of previous good health, the attack commences generally in twenty-four or thirty-six hours after delivery. of pain in the uterus, more or less acute, pre-

ceded, accompanied, or followed by rigors. The uterus is tender on pressure, and the lochia and milk are both suppressed. There is headache, and slight incoherence; a sense of general uneasiness, and sometimes nausea and vomiting, with acceleration of the pulse. After a time, these symptoms are succeeded by increased heat of surface, tremors of the muscles of the face and extremities, rigors, great thirst, dry brown tongue, frequent vomiting of green fluid, rapid full pulse, hurried respiration, &c. The head becomes more involved, and we find the patient in a state of drowsy insensibility, or violent delirium and agitation, followed by extreme exhaustion. The surface of the body assumes a deep sallow or yellow color; and occasionally petechial or vesicular eruptions have been observed on different parts of the body. The pain may or may not increase, but the uterine tenderness is certainly augmented, and the abdomen is often swollen and tympanitic. In some very rare cases, there is little or no local distress, and the existence of the disease could not be discovered except for the secondary affections. Such was the case with a patient under my care. She had no uterine pain or disturbance, no tenderness on pressure; and yet, on the seventh day after delivery, a smart febrile attack preceded the formation of a large abscess near the left elbow-joint: after which, a second followed, on the top of the shoulder, and a third in the right arm, above the elbow.

786. The patient may die during the acute stage, but the majority live longer, and exhibit the most interesting phenomena, connected with this variety of puerperal fever, and distinguishing it from all others. I allude to the ***secondary diseases of other organs.***

The ***brain***, though often functionally disturbed (135 in 304, *Lee and Ferguson*), is not frequently the seat of organic disease. Its vessels are sometimes congested, and lymph diffused in the pia mater, or serum into the ventricles. According to M. Dugès, there is arachnitis once in 266 cases. Portions of the brain are occasionally softened and disorganized; or there is purulent infiltration into the cerebral substance.

In the ***chest***, we find evidences of inflammationn of the pleuræ, effusion of serum of the same character as that in the peritoneal sac, and occasionally effusion of blood.

M. Tonnellè found	pleurisy	in 29 cases.
	effusion of serum	in 8 ,,
	effusion of blood	in 6 ,,

The ***lungs*** are often greatly condensed, of a dark red color, with infiltration of purulent matter; or they may be in a state of "complete dissolution, having all the characteristics of gangrene, except in many cases its peculiar fœtor."

M. Tonnellè found	pneumonia	in 10 cases.
	tubercles	in 4 ,,
	abscess	in 8 ,,
	gangrene	in 3 ,,
	pulmonary apoplexy	in 2 ,,

The symptoms of the secondary affection in these cases (cough, dyspnœa, &c.) are but slight, and are completely masked by the more serious primary disease. Dr. Robert Lee observes,* "In four cases which have fallen under my observation, where there had been only obscure pain during life, with slight cough and dyspnœa, copious effusion of lymph and serum was found within the cavities of the thorax; the pleura was covered with false membranes, and portions of the lungs had fallen into a state of complete gangrene. In one individual, the pleura had given way by sloughing; and the right side of the chest was found distended with air. Gangrene, also, sometimes takes place rapidly in those parts of the body on which the patient rests; and the same process is established in other soft parts, where no pressure has been made. In a case related by Cruveilhier, which did not prove fatal, the nose became black and gangrenous."

The *heart* is often enlarged, softened, and friable; its inner membrane deeply stained; lymph and serum are also occasionally found in the pericardium. There are white patches on the outer covering of the heart. I have never remarked any peculiar disorganization of the great arteries; they are often intensely stained.

The *intestinal canal* is not frequently the seat of organic change. The mucous membrane of the stomach is sometimes inflamed, softened, and occasionally its coats are perforated, giving rise to peritonitis. "Dugès has remarked, that the brown viscid matter exuding from the perforated portion of the stomach, seems to act on the neighbouring organs like a caustic—adding, as proof of this surmise, the fact of his finding a continuous series of perforations of the diaphragm, mediastinum, œsophagus, and lungs, all in the immediate vicinity of a perforation of the large extremity of the stomach."† Between the mucous and muscular tissues, there is an effusion of clear reddish serum, when the vomiting has been excessive. The mucous membrane of the intestines, also, may be softened, and the walls of the canal perforated.

M. Tonnellè found	gastro-enteritis	in 1 case.
	enteritis	in 4 cases.
	entero-colitis	in 1 case.
	the stomach softened	in 8 cases.
	the stomach ulcerated	in 5 „
	the stomach perforated	in 5 „

The *liver* is occasionally diseased: its substance may be congested, softened, or contain abscesses. M. Tonnellè met three cases of abscess in the liver.

The structure of the *spleen* may be softened and disorganized. M. Tonnellè relates two cases of abscess.

The *kidneys* present inflammation of their peritoneal coat, depositions of pus, and flakes of lymph, alterations in their veins, softening, and great engorgement: both kidneys are rarely attacked at once. The ureters and bladder are more often the seat of pain and congestion, than of disorganized structure.

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* Diseases of Women, p. 49.

† Ferguson on Puerperal Fever, p. 36.

The *eyes* are also affected. The conjuctiva becomes inflamed, the eyelids swollen, lymph is effused into the anterior chamber, and the sight is destroyed. Cases of this kind are related by Dr. M. Hall and Mr. Higginbotham, although not by them attributed to uterine phlebitis.* Dr. R. Lee states, that "In two cases which came under his care, the conjuctivæ of both eyes, without much pain, suddenly became intensely red; the corneæ opaque, and the eyelids much swollen, and under their lining membrane a large serous deposition took place; lymph and pus were also effused into the anterior chamber, and in one the cornea ultimately burst."† A case of the secondary affection of the eyes is related by Drs. Hardy and M'Clintock.‡

The *joints* are attacked by inflammation, and sometimes the cartilages by ulceration; and the various products of inflammation are found within the capsular ligaments.§ M. Dugès has thus placed the joints in the order of frequency of disease: 1, the hip; 2, the elbow; 3, the knee; 4, the foot; 5, the metacarpus; 6, the shoulder. Dr. Ferguson has found the elbow and knee more frequently affected than the hip. M. Tonnellè met six cases of abscess of the knee; two of the elbow: and two of the symphysis pubis. Drs. M'Clintock and Hardy relate one case of puerperal arthritis of the shoulder, and another of the little finger.‖ Upon the whole, they agree with Dr. Ferguson as to the joints most frequently affected.

Sero-sanguineous fluid may be effused into the *muscles* or cellular substance of the limbs, giving to them the appearance of erysipelas. M. Tonnellé mentions three such cases. As to the extent of this infiltration, it may be circumscribed within a few inches, or it may extend between two joints, rarely occupying the whole limb.

An *abscess* may be formed in the muscles or cellular membrane of a limb; or a succession of abscesses may occur, as in the case I have mentioned; or the pus may be diffused through the various soft structures. The quantity is sometimes enormous; the patient suffers much pain, and may be seriously injured, if the discharge continue long. The symptoms in the latter case are those met with ordinarily in abscess, except that at the beginning they sometimes resemble a rheumatic attack.

787. *Morbid Anatomy.*—The primary morbid change is evidently

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* Med. Chir. Trans. vol. xiii.

† Diseases of Women, p. 50.

‡ Midwifery, p. 139.

§ Lee on Diseases of Women, p. 50. Beatty: Dublin Journal, vol. xvi. p. 340.

‖ Ibid. pp. 22-24.

in the veins of the uterine region; their coats are thickened, and sometimes so much contracted as to render the canal impervious. The lining membrane is generally paler, and coated with lymph or pus, which may extend to a considerable distance.* According to Boivin and Dugès,† "it is in the lateral veins, at the point where they are collected together to leave the uterus, and merge into the plexus of the ovarian veins, that the pus is most commonly found; in some rare instances, all the sinuses are filled and even distended with it; sometimes there are albuminous concretions mixed with the fluid; even the veins are occasionally obliterated by a yellow concrete matter. When the substance is entirely fluid, the interior of the vessels is of a light rose color, whitish, and smooth, and often even pale and yellowish. We have observed, though only twelve or fifteen times, that this inner surface was uneven and adherent to albuminous flakes."

The disease may be confined to the veins of the uterus, or may involve those of neighbouring parts. The spermatic vein is the one more frequently affected, then the hypogastric; but it may involve the renal veins, as far as the kidneys, or even the vena cava. It is remarkable, that it is generally the veins of one side only that are affected, and that side is the one to which the placenta was attached. When the disease affects veins distant from the uterus, the surrounding cellular tissue is hardened, and contains puriform matter.

Dr. Ferguson observes that, "In a certain number of cases, no lesion can be discovered in the vein, but the presence of some unnatural fluid. It is disputed whether it is absorbed, or the product of venous inflammation. It is of little moment which of the two opinions be adopted; the disease depends not upon how the matter is produced, but whether it enters the circulation. Whether this be by absorption or by inflammation, puerperal fever is the result."

788. *Diagnosis.*—It may in many cases be extremely difficult to distinguish this from the other varieties, at least in the early stage. Generally speaking, the pain and tenderness are more local and limited than in *peritonitis*, and at an advanced period the presence of the secondary disease will at once indicate its true character.

789. *Treatment.*—Severe cases of this species of puerperal fever appear to defy all our resources. When it is the prevailing characteristic of an epidemic, the vast majority will die.

"The two indications," says Dr. Ferguson," "are, 1. to attend to the local lesions; 2. never to forget that these are not the disease, but merely the effects of a more diffusive, though concealed cause, to act on which our remedies should be directed. The *rationale* of the treatment, therefore, consists in the exhibition of such remedies as will act on this cause, and such as will alleviate or remove the local affections;

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* Ferguson on Puerperal Fever, p. 39. J. G. Sasse, de Vasorum Sanguif. Inflam. Halle, 1797.

† Diseases of the Uterus, trans. p. 327.

taking care that in our attempt to effect the latter end, we do not so act on the constitution as to give additional energy to the more deadly power of the concealed cause."

This rule should direct our employment of leeches, blisters, calomel, and opium, &c. in the early stage, and stimulants and tonics in the latter. Dr. R. Lee says that "The French physicians, however, are of a contrary opinion, and are satisfied that we possess a powerful remedy, even in the worst cases, in mercury, employed so as to excite salivation. In several cases of uterine phlebitis, I have employed this remedy to a great extent, externally, and speedily brought the system under its influence: yet the progress of the symptoms was not arrested; and the patients died as others had done, when the mercury had not been administered. In other cases I have employed mercury to a great extent, internally, without the slightest benefit; and it may justly be doubted, from the results of M. Desormeaux' practice, whether or not it possesses the influence M. Tonnellé supposes: for of forty-three cases where mercury was used by him as the chief remedy, only fourteen recovered.*

Dr. Copland speaks in a more hopeful tone as to the results of treatment. "Hunter's treatment of phlebitis," he says, "was powerfully tonic, stimulant, and restorative; and he directed it with the view, correct both in pathology and therapeutics, of enabling the vessels of the diseased part to throw out lymph capable of coagulation, and of assisting the powers of life by these and other means to resist the progress and retrieve the consequences of the disease." Dr. Copland advises a small venæsection, or leeches if necessary, and afterwards turpentine fomentations, a full dose of calomel, camphor, and opium, followed by turpentine, by the mouth and in the form of enema. "In most instances the intention is not so much to evacuate the bowels (for they are often sufficiently open), as it is to exhibit a remedy which is calculated, by its passage into the circulation, at least partially to resist the changes taking place in the blood and vascular system generally, and at the same time to procure the discharge, both from the bowels and from the uterus, of such morbid matters as would be inevitably most injurious if retained even for a short period." Dr. Copland seems to have obtained more favorable results from the use of turpentine than most other practitioners. In Dublin, although it is occasionally beneficial, I do not know that much confidence is placed in it.

I feel very much inclined to agree with Dr. Copland, that probably "no other plan of cure will be found more beneficial for it than that now advised; that no other than that powerfully restorative, tonic and soothing means will be found very beneficial in this form of phlebitis, or indeed in any other."†

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* Diseases of Women, p. 113.

† Dictionary of Practical Med. part xxiii. p. 535.

George's Hospital, July 1st, 1829, under Hawkins, in consequence of sloughing of the skin covering a diseased bursa of the patella. The removal of the bursa was followed by great constitutional disturbance, and on the 14th labor came on. Two days after, symptoms of uterine inflammation made their appearance, and on the eighteenth day death took place. Though the pain was relieved by bleeding, she never rallied after the attack. On examining the body, some puriform lymph was found in the pelvis, but there was no increase of vascularity in the peritoneum. In the broad ligaments some fluid was also effused, and on each side numerous large absorbent vessels were observed passing up with the spermatic vessels to the *receptaculum chyli*, which was unusually distended. All these vessels, and the reservoir itself, were filled with pus, but that in the receptacle was mixed with lymph, so as to be more solid; the vessels themselves were firmer, and thicker than usual. The thoracic duct was healthy. The uterus was scarcely contracted, and the internal surface of the lower half was soft and shreddy, and in a state of slough. The upper part, where no pus was found externally, was also healthy, or nearly so, on its inner surface."

Boivin and Dugès state that the lymphatics "from half a line to a line in diameter, may be seen, in consequence of their injections with fluid, which distends them in the whole length of the ligaments which contain the ovarian veins: we have observed the lumbar glands in some cases lengthened by the pus injected into the vessels; and it has been found even in the thoracic duct."§

The local symptoms are exceedingly obscure, and the constitutional ones quite as severe as in uterine phlebitis, and in the present state of our knowledge not to be distinguished from them. The secondary lesions also resemble those in phlebitis.

As to the *treatment*, we are quite at a loss; as yet, we know of none capable of controlling the disease.

791. VI. Gastro-enteric Fever.—I am not quite satisfied to

include this puerperal affection under the head of puerperal fever, because it rarely involves the uterine system; and because, fortunately, its course and termination are favorably contrasted with the other forms of childbed fever. Yet as it is not unfrequent, and I have known it prevail epidemically, and as I have no other place for it, I have ventured to place it here.

The affection prevailed epidemically in Dublin in 1851, and less extensively in 1852. I saw twelve or fourteen cases of the disease. It resembled "weid" in some degree, but with a considerable difference, and differing yet more widely from the ordinary forms of puerperal fever. Dr. Ferguson has described one form of puerperal fever, which seems to have a close resemblance to this affection; yet his "second form," with gastro-enteric irritation,* seems to be a much more serious attack than the one which I am about to describe.

I shall venture to describe the disease from my own experience, first relating one or two cases, the better to enable my readers to form their own judgment.

Case 1.—Mrs. —— was confined of her tenth child in July, 1851. The labor was natural, the lochia and milk secreted amply, and she progressed favorably until the eleventh day. On the morning of that day, on which she was to leave her bed for the first time, before attempting to rise or dress, and without the slightest apparent cause, she was attacked with a rigor, followed by heat and sweating. The pulse became quick and remained at about 100. The tongue became furred and white; the bowels flatulent and constipated. The milk, which had been abundant, almost entirely disappeared. The uterus was neither enlarged nor painful, nor was there any tenderness on pressure. The lochia continued natural in character, though diminished in quantity. A day or two afterwards, the bowels, which had been freed by medicine, became too much relaxed, accompanied by a most distressing amount of flatulence and frequent griping pain. The pulse very slowly diminished in frequency, and the milk gradually returned. Throughout, the uterus and its secretions were apparently unaffected. On the morning of the eighteenth day the patient appeared much better, nearly convalescent; but, in the course of the day, she had another rigor, followed by fever, which subsided, after twenty-four hours, like an attack of weid. From this time, her convalescence was uninterrupted, though slow, and the milk was ultimately restored to its usual abundance.

Case 2.—Mrs. M.—— was confined of her second child, January 14th, 1852, after a favorable labor. The placenta was expelled in a few minutes, and everything went on well until afternoon of the 16th, when a rigor occurred after taking some castor oil. Soon afterwards, most violent pain in the bowels came on and continued, but increasing in paroxysms. There was considerable tenderness on pressure, but not over the uterus especially. To the rigor, of course, succeeded fever. The skin became hot; the pulse rose to 130, with little or no thirst, but with a total loss of appetite. There was neither nausea nor vomiting, and the bowels were freely moved by the oil. Neither the milk nor the lochia were arrested, except for a few hours. Forty drops of laudanum were given, and thirty more after an hour's interval. A linseed-meal poultice was applied over the entire abdomen. These measures were successful, to a great extent, in the relief of pain, and she obtained some sleep. *January* 17*th*. I found that the patient had suffered a good deal of pain occasionally, but the general tenderness had greatly subsided. There was a spot, however, in the left iliac region, which was very painful on pressure. The uterine tumor was free from tenderness. The lochia were natural in quantity and appearance, but had a heavy smell. The pulse were 120; the skin hot, but moist; some thirst; bowels moved twice. Twelve leeches were applied to the tender spot in the iliac region, and the poultices continued. Vaginal injections of warm milk and water twice a-day. Twenty drops of laudanum were given immediately, and a pill of calomel, gr. j. pulv. ipecac. comp. gr. iij. pulv. Jacob. gr. ij. was ordered to be taken thrice a-day. 18*th*. Much relieved after the leeching. Pulse 110. Tongue white, but not loaded. Very little pain or tenderness, except in the left iliac region. Has slept better. Milk abundant. Lochia natural, and free from smell. Is much troubled with flatulence. The pills and poultices were continued. Towards evening, notwithstanding the opium she had taken, she had an attack of diarrhœa, accompanied with most distressing tenesmus and burning pain in the rectum, which was not relieved until she had had two enemata with thirty drops of laudanum in each. 19*th*. Some uneasiness in the rectum, but no purging. The iliac tenderness has entirely disappeared. The milk and lochia natural. Pulse 100 in the morning, but it sank to 84 in the evening. From this time my patient gained strength, and was no more troubled with pain. The bowels acted naturally, and the appetite was increasing, when, on the seventh day from the first attack, she had a rigor of long duration, followed by heat and sweating, and lasting twenty-four hours, just as in the former case. After this, she recovered very rapidly, and has been well ever since.

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* On Puerperal Fever, p. 22.

Case 3.—Mrs. M—— was confined about the same time as the last case, under the care of Mr. Morgan. Her labor, which was natural, was followed by smart hemorrhage. About the third day she was seized with violent pains in the abdomen, increasing in paroxysms to an intense degree. There was no rigor; the pulse rose to 120, and the skin became hot, but there was no thirst. The breasts were full and the lochia natural. Although the abdomen generally was tender on pressure, there was no peculiar tenderness over the uterus. A full dose of laudanum relieved the pain to a certain extent, and the bowels were freed by medicine. We then applied the mercurial ointment, on lint, over the abdomen, and a poultice over it, and gave small doses of calomel, Dover's powder, and James's powder, three times a-day. The next day she was much better. Pulse 110. Tongue coated; the skin cooler; some pain and flatulence, with uneasiness on pressure. Milk and lochia natural. The day after she was attacked with violent diarrhœa and severe pain in the bowels, accompanied with great exhaustion, so that we were obliged to give wine, and had some difficulty in controlling the bowels by means of opiates, astringents, anodynes, enemata, &c. After we had succeeded in quieting the bowels by these means, and relieved the pain, the pulse still continued for some days above the natural standard. In other respects the convalescence proceeded quite satisfactorily.

Although the foregoing brief cases can scarcely give an adequate idea of the attack being so alarming as it really was, yet those engaged in midwifery practice will feel that, coming on so soon after delivery, and commencing with such formidable symptoms, I might be excused for fearing that the issue would be more serious than it proved. The commencement of the attack in many cases closely resembled that of puerperal fever, and it was not until after twenty-four hours that I could feel sure that the patient had escaped the more formidable disease.

792. I shall now shortly lay before the reader a summary of my observations of this affection of childbed, as it appeared during the epidemic, and as I have observed it in isolated cases.

1. The attack, in almost every case, occurred within a week after delivery: in some cases on the second day; in others on the third, fourth, or fifth day. In one case only have I known it to commence on the eleventh day, and it is remarkable that this patient had, for other reasons, been kept in bed up to that time. In no case have I been able to trace this attack to any special cause, exposure, imprudence, or errors of diet; but there was evidence in some of the cases that the bowels had not been sufficiently attended to during pregnancy. For the benefit of my junior readers, I may observe that it not unfrequently happens that the bowels may be moved daily during pregnancy, and yet that there may be an accumulation of fæcal matter to a considerable extent. I remember a case in which I could trace the colon across the abdomen by enormous fæcal accumulation, although the lady had complained of diarrhœa during pregnancy. In all cases, therefore, it is necessary that we should be sure that the bowels are amply freed, and not merely moved.

2. In comparatively few cases the attack commences with a rigor, not very severe, but sufficiently well marked. In two cases, I observed the rigor to be repeated at the exact intervals of a week, the second attack lasting twenty-four hours, and resembling weid very closely. The sweating stage was more profuse than usual.

3. The most striking symptoms in all the cases I have seen were

the pain and diarrhœa. The former came on rapidly, increasing in paroxysms, and continuing until relieved by medicine. It was general over the whole abdomen, whilst severe, but as it declined it was felt more in one part than another; I think most frequently in the left iliac region. After the first severe attack was relieved, all the patients complained of frequent flatulent pains, with great discharge of flatus. Along with, and in proportion to, the amount of pain was the degree of tenderness; but it was remarked that, after the first impression of pain, the pressure, if equal and firm, was rather a relief; also, that the uterine region was less tender than any other part of the abdomen. It is worth noting, that in no single case did nausea or vomiting occur, but in all there was diarrhœa, even in those in which the bowels were confined at the commencement of the attack, or in which large doses of opium had been given for the relief of the pain. The amount varied; in some the discharges were few, but large and unhealthy; in others they were very numerous, and followed by great exhaustion.

4. The pulse was invariably quick at first, generally 120, sometimes 140, and gradually subsiding as the distress diminished. In a few cases it continued quick for many days, and excited much uneasiness. Its frequency was accompanied by heat of surface at first, which, however, soon diminished. In most cases there was a good deal of perspiration, and in one or two it was excessive. The absence of thirst was rather remarkable in all cases, except just after the exhibition of opium. The tongue was coated with white fur, but neither loaded nor dry.

5. In every case but one the secretion of milk was unaffected, the breasts remaining or becoming full and hard. In the exceptional case, the milk, which had been abundant, was completely suppressed for a time, but ultimately restored.

6. The lochia were generally diminished or suppressed for a few hours at first, but they speedily returned, and occasionally had a heavy smell for a day or two, after which they became natural and healthy.

7. I have already mentioned that, in two of the cases, there occurred a repetition of the rigor, followed by heat and sweating, like an attack of weid.

8. As a general rule, the attack lasted about a week; few were convalescent earlier, and one or two were protracted a few days longer.

9. I need not say that the diagnosis was a matter of extreme anxiety to me, beginning, as the attack did, with so much resemblance to puerperal fever, and presenting such formidable symptoms. However, one thing was clear, that, whatever else I might have to treat, I had undoubtedly to deal with a severe attack of intestinal irritation, as was shown by the pain, its fluctations in seat, and its paroxysmal character, and which was confirmed by the occurrence of diarrhœa. So far was clear; but then arose the question as to whether there might not exist enteritis or peritonitis; and some support to this view

was afforded by the rigor, the quick pulse, and the tenderness; but then the pain was shifting and paroxysmal, which is not generally the case in these diseases, and the tenderness was superficial, and not increased by prolonged pressure. Add to this, that the decided improvement in the course of twenty-four hours negatived such a supposition. There then only remained the question of how far the uterine system was involved; and as I found no particular tenderness over the uterus and no enlargement of that organ; that the lochia, if modified for a few hours, shortly resumed their natural character; and lastly, that the secretion of milk was abundant and unchecked, I came to the conclusion that the uterine system was unaffected, that no inflammation existed in the peritoneal serous membrane or in the intestines generally, but that the attack was one of severe irritation of the gastro-intestinal mucous membrane, accompanied with high fever, for some unexplained cause.

10. In the epidemics I have described I saw no fatal case, nor do I think such a result would occur unless the uterine system became involved, which would place the case in a different category. Such complications, we can readily conceive, might occur, and I think I have formerly seen one or two cases of the kind, which proved very serious, and required a different treatment. The indications of such an extension of the disease will be found in the increase and permanency of the fever, perhaps in its change of type, in the suppression of the milk and lochia, and in the local tenderness on pressure.

11. The *treatment* was simple enough, and very successful. The first object was to relieve the pain by large, and, if necessary, repeated doses of opium by the mouth, or by enemata of laudanum and starch, and externally by poultices of linseed-meal, alone or mixed with flour of mustard. When relief was obtained, if the bowels had not been sufficiently moved, I gave a dose of castor oil, but had I known that diarrhœa would follow the pain, as it generally did, I need not have done this. I then, as a safeguard, gave small doses of calomel or grey powder, with Dover's and James's powders, three or four times a-day, and in two or three cases applied the ung. hydrarg. to the abdomen underneath the poultices. After I became more familiar with the attack, I either omitted the mercury altogether or left off the moment I was satisfied that the uterus was unaffected, but I continued the James's and Dover's powders, and the poultices, until the pain and uneasiness ceased.

The flatulence was most effectually relieved by camphor mixture, with aromatic spirit of ammonia, compound spirit of ether, and tincture of orange-peel. I kept the patients on low diet at first, of course, and I found it necessary to be very cautious for some time, in increasing the nourishment, as a meal was very apt to be followed by pain and flatulence.

793. Malignant Puerperal Fever.—This form is compara-

tively rare, except when the disease prevails epidemically. It may attack the patient before delivery, immediately after, or after some days, and perhaps the most frequent time is at the end of the second or the beginning of the third day. "In the case of a female attacked *before delivery*," Dr. Copland observes, "to which I was called by Mr. Barnwell, the symptoms were the same as those observed by me in other cases. This patient was seized early on the 12th of February with acute pain throughout the abdomen, with enormous distension, and exquisite tenderness; with very rapid, full and soft pulse, varying from 130 to 136, and with frequent vomiting. I saw her in the afternoon of the same day. The vomiting and state of the pulse were as here stated. She complained of headache and of thirst, and was very despondent. Her tongue was broad, flabby, slimy, and tremulous: her countenance pale, anxious, and covered by perspiration, and her general surface warm, moist, and clammy. Labor pains came on that evening, but were inefficient, the action of the uterus having ceased. Mr. Barnwell administered secale cornutum, which ultimately induced uterine action, and she was delivered after a labor of about twenty hours. On the following day (the 16th), the distension and tenderness of the abdomen were diminished; but the sickness and vomitings, with borborygmi and flatulent eructations, continued. A pathetic depression of spirits, anxious expression of countenance, flabby and slimy state of tongue, a very rapid, fluent, and weak pulse, clammy state of the skin, scanty and almost suppressed urine, quick and oppressed breathing, a feeling of pressure on the diaphragm, requiring the head and shoulders to be elevated, were soon followed by the symptoms ushering in dissolution,"*

794. The same author has given a graphic picture of the attack when it occurs *almost immediately after delivery*. He says that "the earliest indication of the impending mischief is the great rapidity, softness, and weakness of the pulse, often attended by pain and tenderness at the epigastrium, by sickness and vomiting, followed by general distension and pains darting through the abdomen. But in the majority of cases there are neither chills nor rigors: in a few, a feeling of coldness only; and in still fewer, slight rigors. In this state of the disease the patient soon becomes despondent, predicts her dissolution, is afterwards apathetic, and makes little or no inquiry for her infant. The milk and lochia are either little or not at all diminished, or are more than usually abundant. The abdominal pain and distension are sudden and quick in their action; but the pain soon ceases, the distension remaining, and afterwards changing its character if the disease continues above two or three days. The tongue, from the commencement, is flabby, broad, and slimy, or covered by a mucous or creamy coating; the pulse is usually from 120 to 140, or even upwards, fluent,

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* Dict. of Pract. Med. part xiii. p. 519.

soft, or broad; and the general surface presents a lurid, or dusky, or dirty hue, and is covered by a clammy or offensive perspiration. The countenance is pale and inexpressive, unless where the pain is acute, when it becomes anxious and covered with perspiration. The mind is but little disturbed, beyond a state of complete apathy. As the disease proceeds, respiration is short, suspirious, or difficult; the pulse small, soft, or irregular; the bowels frequently relaxed, and the stools offensive, or passed without control. Distressing feelings of sinking, leipothymia, or restlessness, supervene, and are soon followed by symptoms of impending dissolution."

I think it will be found that in the majority of cases the milk is not secreted at all, or very slightly, and that the lochia, which may appear natural for a day or two, become scanty, and with an offensive odour. I have also seen the abdomen remain in its natural state, neither painful, tender, nor distended; but this is rather an exception.

795. The most common period, I have said, for the incursion of the disease, is on the second, third, or fourth day; but it may occur even later. Its commencement may be marked by rigor, or more frequently by a creeping, chilly feeling, a sort of imperfect rigor. Dr. John Clarke observes, "It has hardly occurred to me to see a case in which the disease began with a shivering fit, which is common in the commencement of many other fevers, and in the cases where the constitution sympathises with the local inflammations which have been already treated of. If there was any degree of rigor, it has been so slight as to have escaped the attention of the patient, and the observations of her attendants. Indeed, so great a diminution of the sensibility accompanies the whole complaint, that even if a slight rigor should take place, the patient might not observe it, or being sensible of it at the time, might not afterwards remember it."* Coincident with this symptom, or preceding it, or independent of it, we always find the pulse unusually quick; instead of being from 80 to 90, it is generally from 120 to 130, and often higher, confirming the accuracy of Dr. John Clarke's observation, that no woman can be considered safe whose pulse is not under 100. But not only is it rapid, but it is generally small, weak, and easily compressed, not at all a pulse which would justify bloodletting,

At an early stage in the disease, many patients complain of pain in the stomach, bowels, or region of the uterus, accompanied by more or less tenderness, and followed by distension. This, however, is by no means always the case. In a patient I saw some time ago, who died on the third day of the disease, there was neither pain, distension, nor tenderness in any part of the abdomen. In others, we find distension with but little pain and no tenderness. Sickness of stomach, vomiting, diarrhœa, may occur at the very outset of the disease, or on the cond or third day, or not till towards the termination of the disease: n some cases it does not occur at all. Dr. John Clarke says that the purging commences on the third or fourth day, or even later.

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* On Pregnancy and Labor, &c. Volume on Diseases of Women, published by the Sydenham Society, p. 419.

But however the disease may commence, and however slight and few the local symptoms may appear, to the experienced eye they are always most formidable, and generally run a rapid course. The fever has a low typhoid character; the patient is nervous, depressed, and fearful; the pulse is soft, small, and increasing in rapidity; the respiration quick, hurried, high, and often panting; the abdomen in many cases swollen, tympanitic, and painful; sometimes generally tender, sometimes only in a particular part; the lochia are sometimes altogether arrested, sometimes merely diminished in quantity, but more commonly, at least after a day or two, changed in quality, with a fœtid odour: in some rare cases, they continue quite unaltered to the last. The secretion of milk, however, I have found invariably suppressed in the worst cases; in others, arrested after it had occurred. The urine appears generally diminished in quantity. The mental functions are but little disturbed till towards the termination, when it is not uncommon for the patient to be partially or temporarily delirious, but never violent. In many cases there is a peculiar nervous hurry, an excitement of manner, with tremulous movement of the feature and hands. In most cases she is greatly depressed and fearful, anticipating an unfavorable result; in some few others I have known the hope of life vivid to the end. A patient I saw lately prognosticated her speedy removal to the drawing-room an hour before her death. It is very remarkable, that in most cases the natural affections of a mother seem perfectly quiescent, the patient rarely asking after, or manifesting any interest in, her child after the disease has fairly set in.

In the epidemic described by Dr. Joseph Clarke, he says, that "It always began with a distinct chillness or shivering. The pain in the cavity of the abdomen was not more frequent in one part than in another, nor was the tenderness so great as to be much affected by such trifling causes as the pressure of the bed clothes. Little or no vomiting appeared in any stage of the disease, no delirium, and no unequivocal marks of putrescency in any part of the system. The pulse in general beat from 120 to 140 strokes in a minute. The lochial discharge and secretion of milk were not subject to any general law. Sometimes the continued regular for a short time, and sometimes they were suppress from the beginning."*

Dr. Douglas has thus sketched this form of puerperal fever appeared in the Dublin Lying-in Hospital in 1812:—"The sens here is seldom in any degree disturbed, whereas in the other it is so frequently, and even sometimes is excited to high

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* On Puerperal Fever. Sydenham Soc. p. 355.

The pulse here is usually from the moment of attack soft, weak, and yielding, and in quickness often exceeds 160; whereas in the first species it is full, bounding, and incompressible; and in the second, small, hard and incompressible, and in both moderately quick. The eye, instead of being suffused with a reddish or yellow tint, as in the others, is here generally pellucid, with dilated pupil. The countenance, instead of being flushed, as in the others, is here pale and shrunk, with an indescribable expression of anxiety, an expression altogether so peculiar that the disease could on many occasions be pronounced or inferred from the countenance alone. The surface of the body, instead of being, as in the others, dry, and of a high pyrexial heat, is here usually soft and clammy, and of a heat not above the natural temperature; and not only is the skin cool, with clammy exudation, but the muscles, to the impression of the finger, feel soft and flaccid, as if deprived of the *vis insita* by the influence of the contagion. Indeed, there is such prostration of strength and depression of the vital principle from the very outset of the attack, that I must suppose the contagion to act upon the human frame probably through the influence of the nervous system," &c.*

Dr. Gooch found that "the cases which were so numerous in these unhealthy seasons had the common symptoms and course of puerperal fever. They began a few days after delivery; the leading symptoms were, diffused pain and tenderness, with some swelling of the abdomen, a quick pulse, which was generally at first full and vibrating. Sometimes it was small, but still it was hard and incompressible; the skin was hot, though not so hot as in other fevers; the tongue was white and moist; the milk was suppressed. As the disease advanced, the belly became less painful, but more swelled, and the breathing short; towards the end, the pulse was very frequent and tremulous; and the skin covered with a clammy sweat; even in this state the tongue continued moist and the mind clear, and death took place generally about the fifth day."†

In the epidemic which appeared in Paris, in 1838, M. Voillemier describes the typhoid form as beginning with a long and severe rigor, often a few hours only after delivery; pain very intense over the whole abdomen, which rapidly became swollen; pulse feeble, compressible, and undulating, often 150; respiration hurried, anxiety extreme, severe frontal headache; countenance sunk, pale, and covered with a clammy sweat; constant vomiting of green matters; purging, stools fœtid. The patients rapidly sank at the end of a few days, or even hours. There was no regularity in the condition of either the lochia or milk."‡

Dr. Copland thus sums up the characteristics of the attack:

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* Dublin Hospital Reports, vol. iii. p. 154.

† On the More Important Diseases of Women, p. 40.

‡ Journ. des Connoiss. Med. Chir. Dec. 1839, Jan. 1840.

"Whatever may be the period or mode of its accession, this variety of the disease always pursues a rapid course, and unless early arrested by energetic means, it almost always tends to a general contamination of the fluids and structures, and to death. At the commencement, the nervous system of organic life and the blood appear to be suddenly and seriously affected, as shown by the general loss of vascular tone and of sthenic action, by the disturbance of all the vital functions, and relaxation of contractile parts. The earliest symptom is often the remarkable rapidity of the pulse, which is also broad, open, soft, or fluent; or small, thready or irregular, but always very quick and compressible. Rigors and chills are generally absent; or if they have been present, they are either slight or of short duration. In the most rapidly fatal cases, or such as arise in crowded or close lying-in wards, they rarely occur; and in these the disease may be complicated, or present no prominent lesion or affection; the whole frame participating in the malady, through the medium of the organic, nervous, or vascular systems; or if any prominent lesion appears, the peritoneum or other shut cavities most frequently experience it, and present the appearance hereafter to be noticed."*

I have quoted thus largely from different authors, to show, in the first place, that we are not to expect any absolute regularity of symptoms, which will vary, not merely according to individual peculiarities, but also according to the peculiar character of the epidemic, which *may* differ each year, and which certainly does differ in different cities: and secondly, as illustrating the broad fact that the disease has a constitutional rather than a local origin. The most invariable symptoms are, the typhoid character, the vital depression, the quick weak pulse, suppressed milk, and disordered lochia; and I have seen more than one patient die without a single other symptom; neither pain, nor tenderness, nor swelling of the abdomen or its contents. Of course, in most cases other symptoms are added, such as I have already enumerated; but I feel it important to impress upon my junior readers that the disease is to be judged by the *character* of the symptoms present, and not by their number nor by the amount of suffering.

The disease advances with varying rapidity, and in its progress the symptoms increase and assume a more fatal character. The heat of skin is not augmented, but the surface is pallid, clammy, and assumes a dirty color, with dark circles about the eyes. The pulse becomes quicker, smaller, and weaker, and towards the end, irregular and intermitting. The respiration is rapid, irregular, and often sobbing; the tongue moist, sometimes clean, but generally loaded with a whitish or yellowish fur, indented by the teeth, and tremulous. Occasionally, though rarely, it is dry and brown, as in typhus fever.

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* Dict. of Practical Medicine, part xiii. p. 520.

The nausea and vomiting may increase or diminish, and there are frequent eructations, of bad flavor. The abdomen becomes very tense, with constant, or more commonly, irregular stings of pain, with heat, or general tenderness. The patient may either suffer from intense restlessness and anxiety, or lie in a semi-torpid state. The mind gradually becomes apathetic and indifferent, and the patient may either gradually and quietly, though rapidly, sink, or dissolution may be preceded by restlessness, dyspnœa, lividity of countenance, &c.

Dr. John Clarke mentions two symptoms worthy of notice, but which I think are by no means common :—"In some instances aphthæ will appear over the whole internal surface of the mouth and tongue, the hard and soft palate, the uvula, tonsils, and pharynx, so that they will all become perfectly white and swelled. The irritation from this cause produces a constant disposition to cough, which is also partly occasioned by the secretion of a thick mucus about the pharynx, which chokes up the trachea, keeping up a perpetual difficulty of breathing. In some instances similar aphthous appearances will be found about the anus." In some instances purple spots have appeared before death, as in petechial fevers, probably depending either on great weakness of the vessels which allow the fluids to escape into the cellular membrane, or upon some alteration in the state of the fluids themselves, by reason of which they are not so easily retained, or partly on the one, and partly on the other."

796. The local symptoms will vary very much, according to the part principally affected ; for I believe that any of the forms of local disease, already described, may be found complicating this low child-bed fever.

1. In some cases, there are absolutely no symptoms indicating abdominal disease. Neither pain, tenderness, nor distension is present. In a case I saw, to which I have referred, although the symptoms were of the worst kind, the only local symptom up to death was inflammation of a small branch of varicose veins of one leg, which was soon much relieved.

2. Peritonitis appears to be the most frequent local affection, judging from the descriptions of the different epidemics ; but the practitioner would be greatly deceived who expected it to present the acute and well-marked symptoms usual in the ordinary cases of that disease. All the local characteristics are, if I may be allowed the phrase, muffled. There may be pain, even severe pain, but it rarely amounts to the agony we witness in idiopathic peritonitis ; very often it is but slight, and in paroxysms, diminishing as the disease advances, and in two or three cases, in which I found after death universal peritonitis, there had been neither pain nor tenderness.

3. If the inflammation chiefly or solely occupy the womb or its appendages, there may be a good deal of pain, tenderness, and enlargement ; or it may be slight and obscure, and only to be detected by a careful and minute examination. In the latter cases, I have most

commonly detected a tender spot on one side or other of the body of the uterus, and sometimes even when there has been no perceptible enlargement, and no tenderness when the uterus was generally pressed.

4. In some of the worst cases I have seen, presenting the most marked typhoid character, with apparent freedom from local disease and running the most rapid course, the only local lesion was uterine phlebitis, sometimes accompanied with tenderness on pressure at the sides of the uterus, but very often without pain or tenderness. But in such cases the disease is too quick in its course for the secondary characteristic lesions to show themselves, and therefore during life we can only assume the probability of venous or lymphatic inflammation.

In general, subject to the modifications I have mentioned, the local affections will present the symptoms and characters I have already described under the several heads; and I repeat that, in the low malignant childbed fever, we may find any of these local affections, or even two or more combined.

797. The *duration* of the disease varies much. In certain epidemics, cases have ended fatally in twenty, twenty-four, or thirty hours from their commencement; generally speaking, however, the final termination is most frequent from the third to the fifth day. Dr. Collins thus enumerates the periods of the commencement and termination of the cases he has recorded:—"Of eighty-eight cases that occurred during my residence, one had the disease well-marked before delivery; one was attacked in six hours; one in nine; one in ten; three in twelve; one in thirteen; one in fifteen; two in seventeen; one in eighteen; one in twenty; one in twenty-one; and two in thirty hours from delivery. Thirty-two were attacked on the first day; twenty-nine on the second; eight on the third; two on the fourth, and one on the eighth day. The disease seems to run its course with great rapidity in most instances. In fifty-six deaths in the hospital, it proved fatal at the following periods after the date of the seizure: viz., two in twenty-four hours; one in twenty-seven; one in thirty-six; nine on the second day; fifteen on the third; thirteen on the fourth; four on the fifth; five on the sixth; three on the seventh; two on the eighth, and one on the eleventh."*

798. *Pathology.—Morbid Anatomy.*—I must refer my readers to the foregoing sections of this chapter for a description of the peculiar morbid appearances observed in the different species of local affection, peritonitis, hysteritis, phlebitis, &c.; but in this malignant form there is in addition, as Dr. Copland has observed an impaired cohesion of the tissues generally, and more or less of a turbid serous effusion into the serous cavities. He mentions also that in several cases in which bloodletting had been practiced, "on every occasion I was

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* A Practical Treatise on Midwifery, &c. p. 382.

struck by the peculiar faint odour and very dark hue of the blood; by the very soft state of the clot when the blood did separate into crassamentum and serum; by the appearance which occasionally presented itself, of a mass exactly resembling in color and consistence a common jelly, the coloring matter covering the bottom of the vessel in the form of a precipitate; and by, in some instances, a slight separation only of serum, the large, loose, gelatinous crassamentum, consisting chiefly of this jelly-like matter, the lowest stratum of which contained the black or dark-brown precipitate of coloring matter. These appearances of the blood were presented in several cases in the hospital, in 1823 and three and four subsequent years, in which cases blood had been taken before I saw the patients. It may here be remarked that I have seen many cases of this form of the disease, in which leeches had been applied to the abdomen; but in nearly all, and especially in those which occurred in the hospital, the blood which flowed from the bites did not coagulate; and great difficulty, almost amounting to an impossibility, of arresting the bleeding from them, was generally observed, owing both to the state of this fluid, and to the impaired vital cohesion of the tissues characterizing the advanced stage of the malignant form of this domestic pestilence."*

In a former section of this chapter, I have adduced other evidence of an altered state of the blood, and judging from all the evidence we possess, I am inclined to believe that the pathology of this malignant form of the disease consists in a depravation of the circulating fluid, either from absorption of noxious matters, or from inflammation of the veins, or from both combined, and accompanied by a diminished cohesion of the tissues generally.

799. *Causes.*—I have already enumerated every imaginable cause, I think, to which puerperal fever has been attributed, and I need not now recapitulate them. I shall merely observe, that a natural and easy labor does not necessarily preclude an attack, nor does a considerable loss of blood confer any immunity; on the contrary, when the disease prevails, whatever depresses the system seems to favor its production. It is chiefly when the disease is epidemic that we see this low or malignant form, and a knowledge of this fact, and of the coincident prevalence of erysipelas, should put practitioners on their guard, and induce tenfold more care and watchfulness than usual. Nor although the more numerous cases occur in hospital or dispensary practice, are we to anticipate an immunity in private practice. During the epidemics in this city, there have been several cases among the richer classes, which proved fatal. And in the more recent epidemic, the prevalence of the disease among the better classes has been still more remarkable. In addition, I have remarked that during an epidemic, even if the

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* Dict. of Pract. Med. part xii. p. 523.

disease did not appear in private, lying-in women do not recover as frankly as usual.

I have already said enough about contagion, and earnestly cautioned those engaged in practice to adopt every possible precaution to avoid being the agents in spreading it. It would surely be a life-long sorrow to feel that a patient had been sacrificed to our carelessness.

800. *Diagnosis.*—There can be no difficulty in distinguishing this disease from every other; its occurrence soon after delivery, the alarming nature of the symptoms, and their rapid progress, are unlike any other affection.

1. *Weid* will sometimes commence very severely, and excite our anxiety; but in general it is later in its commencement, more acute than low childbed fever in its symptoms, and comparatively evanescent.

2. The ordinary *sporadic puerperal fever* is more acute, and with more prominent local symptoms; there is nothing like the low typhoid character of malignant puerperal, except in uterine phlebitis; and if the latter be rapid in its progress, the two forms of the disease are similar in symptoms, and run a nearly identical course.

801. *Prognosis.*—It is scarcely possible to conceive a disease in which the prognosis is more unfavorable than in a severe case of low malignant epidemic puerperal fever. Dr. John Clarke states, that according to his experience, about three-fourths die, and I do not believe this to be above the average. Of course, some epidemics are milder than others, and a larger proportion recover; in others, almost all fall victims. "The danger," says Dr. John Clarke, "seems to be greater in proportion as the accession is sooner after labor. Those who have had the disease at a later period have not been attacked with the same violence; the depression of strength has been less considerable, the tumefaction of the abdomen less extensive, and their chance of recovery has been, consequently, better. It has not occurred in my sphere of observation to see any recover in whom the swelling of the belly has been in any great degree. Indeed, it is hardly possible, when we consider the great injury which all contents of it must suffer from the effusion of extraneous matter poured into the cavity, as will be hereafter described."

The unfavorable symptoms are, a pulse of increasing quickness and diminished strength, suppressed secretion of milk and lochia, fœtid lochia, nervous agitation, rapid high breathing, swollen abdomen, diarrhœa, sunken countenance, clammy skin, exhaustion, &c.

On the other hand, a slower pulse, quiet bowels, diminished distension of the abdomen, natural respiration, and a warm, moist skin, with natural evacuations, and a continued supply of milk, are very favorable symptoms; but no improvement in any symptoms can be considered satisfactory unless the pulse becomes decidedly slower, fuller, and more steady.

802. *Treatment.*—If, by the treatment of low puerperal fever, we are supposed to mean such remedies as afford a reasonable hope of

cure in the majority of cases, I must frankly avow that I know of no such remedies. As Dr. John Clarke observes, "This disease is less obedient to the power of medicine than almost any which I know. Its attack is so very insidious, and often entirely unperceived, and its fatal termination is often so sudden, that the time when medicine could be useful has often elapsed before it has been even known that the disease existed at all." I am satisfied that if *active* treatment be at all efficacious, or even justifiable, it must be within the first twelve hours—and how rarely do we see a patient so early? nay in many cases, I should doubt if active treatment is ever justifiable. Thus, if bleeding be ever allowable, it must certainly be within the first twelve hours; but in the majority of cases I have seen, it was not admissible. Drs. Gordon, Armstrong, and others, no doubt, have spoken highly of the effects of early and large bleedings; but, so far as I can judge, the disease was of an acute inflammatory character. Dr. John Clarke gives the result of his experience in these words: "In the first place, then, let me caution (especially younger) practitioners not to be misled by the tumefaction of the abdomen, so as to employ the lancet with the expectation of curing a supposed inflammation. Bleeding from the system has been always attended with manifest disadvantage, although it has been tried in patients who have been apparently strong and plethoric before. It has, in some instances, for a short time diminished the pain, and the buffy appearance on the blood taken away has been supposed to justify the operation; but it generally lowers the patient extremely, and in some cases I have known it evidently hasten death. Bleeding from the skin of the belly by leeches, though it do not produce the same degree of debility, yet has in no instance, within my knowledge, contributed in any degree to the cure of the patient." He equally objects to blistering the abdomen; but from the cases I have seen, I am inclined to think it useful, and it affords an opportunity of applying mercurial ointment to a highly absorbent surface.

Mr. Norris has lately tried the application of the tincture of iodine over the abdomen, both in the sthenic and asthenic forms of puerperal fever, and from his testimony to its success I should be anxious to give it a fair trial.*

M. Doulcet's plan of emetics seems to have failed in producing the beneficial results he expected. Dr. Copland tried it, but it did not succeed, and in Dr. John Clarke's hands it was disadvantageous.

Calomel, in small or large doses, with or without opium, seems to be our sheet anchor, especially if we see the patient early. I have seldom found it possible to give it in large doses, in consequence either of the existing intestinal irritation, or of the irritation produced by it; so that I have generally given it in doses of one or two grains of calomel, with one-third of a grain of opium, or two or three of Dover's powder, every two, three, or four hours. At the same time I must candidly confess that, latterly especially, I have not found mercury to exert so decidedly beneficial an influence upon the disease. Can it be owing to the changed type of the disease, just as we find bloodletting, formerly so useful, now impracticable or injurious? Dr. Copland derived much more benefit from the larger doses of calomel and opium every five or six hours, with a dose of turpentine and castor oil. He also tried "the effects of camphor in large doses, in conjunction with calomel and opium, or with quinine and capsicum, omitting the calomel, aided by the turpentine, and preceding them by an emetic, when its use was indicated by the symptoms." If the diarrhœa be troublesome, the calomel must be omitted, but mercurial innunction may be substituted, and I have found the linim. hydrargyri of the London Pharmacopœia very useful.

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* Med. Times and Gaz. Dec. 11th, 1852.

Dr. John Clarke's plan was to give bark, in powder and decoction, with opium, wine, fomentations to the abdomen, &c. In some cases a gentle emetic was given, and emollient or anodyne clysters if diarrhœa were present.

The spirits of turpentine seems to be of use in some cases, but certainly not to the extent supposed by Dr. Brennan. It forms an admirable fomentation to the abdomen when blisters are not used, and if the bowels be confined, is a useful addition to castor oil, as a purgative, given either by the mouth or as an enema. It may be given in doses of from two drachms to half an ounce, once or twice a-day, but it is so disagreeable to the stomach, that after a few doses patients frequently refuse to take any more.

Many remedies which have been found beneficial in the other and more local forms of puerperal fever, seem to be of little or no use in this variety, so that our means of treatment seem reduced to leeches, at a very early period; fomentations or blisters to the abdomen; calomel and opium, camphor and turpentine, and other stimulants.

From the asthenic or typhoid character of this disease, and the atmospheric constitution during which it prevails, I feel myself inclined to anticipate more favorable results from a treatment resembling that of other typhoid affections. It is true that bark, formerly given in the Dublin Lying-in Hospital, did not succeed, but yet I should be inclined to try it in such cases as I have described, and we have the testimony of Drs. John Clarke, Lowder, and others in its favor. Quite recently M. Beau has found large doses (15 to 30 grains in the day) of quinine very successful in an epidemic at the Hôpital Cochin.* In Dr. M'Clintock's account of the epidemic which prevailed in the Hospital from Dec. 1854 to Feb. 1855, he states that the practical conclusions at which he arrived was to "leech promptly, to purge actively, and to stimulate freely."*

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* Med. Times and Gazette, October 25, 1856.

I have no doubt whatever of the propriety of keeping up the strength by the timely administration of nourishment, and of the exhibition of wine much earlier and to a more liberal extent than has been usual. In truth, the type of disease generally and equally, of puerperal disease has so much changed of late years, that instead of the antiphlogistic treatment, which was undoubtedly successful, we must substitute a different, and in some respects an opposite, treatment, to be equally successful at present. Attention to this change of type will explain the success of different remedial measures, and is absolutely necessary to the scientific practice of our profession.

When the disease occurs in hospitals, the patient should be separated from all others, with separate attendants, and the greatest cleanliness observed. Before the ward is again used, it should be well scoured and ventilated, the bedstead scoured, the bed clothes washed, and the bed washed, or burned, which is better.

CHAPTER X.

PHLEGMASIA DOLENS.—CRURAL PHLEBITIS.

803. This disease, under various appellations,—anasarca serosa, bucnemia sparganosa, phlegmasia lactea, œdema lactium, milk leg, white leg, swelled leg, &c. &c.—has been long known to the profession, although there has been, and still is, much difference of opinion as to its exact nature. It was described by Roderick a Castro, in 1603, and subsequently by Mauriceau, Puzos, Levret, Petit, Leake, White, Hull, Trye, &c. It consists in a colorless swelling of one or both legs (simultaneously or successively) shortly after delivery, with pain, tenderness, and fever, lasting a certain time, and running a pretty definite course. The left leg is far more frequently affected than the right, although it is not easy to account for it.

It may occur with first children, but it is more frequent after subsequent deliveries. Women of a delicate constitution or lymphatic temperament are said to be the most liable to its attacks, and especially those who suffer from any uterine irritation after delivery. It not unfrequently follows extraction of the placenta, as in Mr. Chatto's case.† Women who have suffered from it once are very apt to have a slight return of it after the next confinement, without any repetition of the cause. I have had patients in whom this occurred several times, each time in a slighter degree.

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* Dub. Quarterly Journal, May, 1855.

† Med. Gazette, Sept. 14th, 1839.

It may commence at an early period after delivery, and the time makes a considerable difference in our judgment of the case, according as this begins before or after the sixth day. Of twenty-two cases observed by Dr. R. Lee, seven were attacked between the fourth and twelfth day, and fourteen after the second week. Levret mentions its occurrence on weaning the child; and Dr. Blundell,* that in "some rare instances it makes its appearance even months after delivery."

But it is not necessarily or exclusively a "*post-partum*" disease, and as this has an important bearing upon the correct pathology of the affection, I may be excused for entering into a little detail upon this subject. The earliest writer who mentions its occurrence unconnected with parturition, is, I believe, Puzos, who relates two cases of pregnant women, one of four, and the other of seven months, in whom it occurred. Dr. Meigs says that he has met with many examples of phlegmasia dolens in pregnancy. Denman, Burns, Dewees, M'Clintock, &c. mention its occurrence after abortion, especially when a portion of the ovum has been left behind. Drs. Willan and R. Lee, Mr. Lawrence, Drs. Copland and Dewees, have recorded cases which occurred in patients laboring under malignant ulceration of the cervix uteri. Dr. Blundell has met with the disease in connexion with malignant fungous growth from the same organ. Dr. Copland relates a case consequent upon hysteritis, in a lady who had not been pregnant for some years. The attack has also followed suppression of the menses by cold, as in cases related by Tommasini of Bologna, Dr. R. Lee, and Dr. M'Clintock. Again, there may be no disease or disorder of the womb or its functions, as in the case of phlegmasia dolens accompanying dysentery related by Dr. Mayne; and lastly, it may occur in the upper extremity,† or in a well marked form in the male sex.

804. *Symptoms.*—As we have generally to do with the disease as it occurs in women who have suffered from irritation or inflammation of the womb, it is not surprising that the ordinary premonitory symptoms should commence with pain or uneasiness in the lower part of the abdomen, extending along the brim of the pelvis. I have seen this pain extremely severe, like an exaggerated after-pain, and lasting for some hours. In some cases there is a well-marked or imperfect rigor, in others nothing of the kind. The patient is irritable, depressed, and complains of great weakness, headache, and thirst. Dr. Denman remarks, that "before the appearance of any swelling or sense of pain in the limb about to be affected, women become very irritable, with a sense of great weakness, and grievously oppressed in their spirits, without any apparently sufficient reason; complaining only of transient pains in the region of the uterus, and from these the approach of the disease has frequently been foretold. After a short time they are seized with an extremely acute pain in the calf of the leg, extending

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* Obstetricy, p. 785.

† Dr. Winn; Med. Times, Aug. 14th, 1852.

to the inside of the heel, and then, observing the course of the lymphatics, stretching up to the ham, along the internal part of the thigh, to the groin, occasioning a slight soreness on the lower part of the abdomen."*

Sometimes, however, there are no precursory symptoms, the patient being suddenly seized with pain in the calf of the leg; or it may commence like rheumatism, affecting the back and hip-joint, as Dr. Burns has remarked. "Sometimes there is no uneasiness in the belly, and the first symptom is sudden pain in the calf of the leg. Within twenty-four hours after the pain is felt, the limb swells, and becomes tense; it is hot, but not red—it is rather pale, and somewhat shining. The swelling sometimes proceeds from the groin downwards; but in most cases it is first perceptible about the calf of the leg, and proceeds upwards. It is generally followed by an abatement, but not a cessation of the pain. Sometimes the disease begins like rheumatism, affecting the back and hip-joint. Then the upper part of the thigh becomes painful and swelled, and next the calf of the leg suffers; sometimes the limb at first feels colder than the other."†

When the disease begins in the pelvis, the pain speedily extends below Poupart's ligament down the thigh, to the ham, calf of the leg, and foot. It is constant, but occasionally remitting, and not much relieved by posture, though a depending position materially increases it. Shortly after the commencement, the inguinal region is tumefied and tense, and in a day or two the thigh becomes swollen, tense, white and shining. This swelling may be confined to the thigh, or extend to the heel, and it will vary much in amount; occasionally the leg is enormously increased in size. When the pain originates in the back and hips, the nates and vulva become swollen, glassy, and tense. When the disease commences in the calf of the leg, the swelling is first observed there or at the ankles, gradually extending itself up the leg and thigh. The temperature of the limb is generally increased, though in rare cases it is below the natural standard. At the commencement and decline of the disease, the limb pits upon pressure; but when the distension is very great, it does not. Just as Dr. R. Lee has described:—"In several well-marked cases, however, of crural phlebitis at the invasion of the disease, the impression of the finger has remained in different parts of the limb—more particularly along the tibia; but as the intumescence has increased, the pitting upon pressure has disappeared until the acute stage has passed away. At the onset of the disease I have also observed in several cases a diffuse erythematous redness of the integuments along the inner part of the thigh and leg."

In most cases, the femoral vein may be traced from the groin down the thigh, feeling hard, and rolling under the finger like a cord. Of course, this is not the case when the attack is limited to the leg. There is a degree of tenderness over the entire limb, but it is very marked along the course of the inflamed vessel; generally there is neither redness nor discoloration, but in some few cases a faint red streak may be perceived. The inguinal glands share in the irritation, and may be swollen and hard: in some rare cases they suppurate; and according to Dr. Burns, mortification has taken place, and amputation been necessary.* Abscesses may also form in the cellular membrane. Either leg may be affected; but, as I have already observed, the left is more frequently attacked; and it not uncommonly happens that the sound leg participates in the disease before the other is perfectly well, and then the disease runs a similar course a second time. Mr. Sankey observes, "Most of my patients have had both legs affected, though not at the same time; but after going through the process Dr. Wynn has described in one, the other becomes affected; and unless prevented by the application of blisters, goes through the same stages, and takes the same time as the first."† In the cases of double attack which I have seen, the second limb was certainly more slightly attacked than the first; although this does not accord with the great experience of Dr. Denman, who found the second as severe as the first.‡ I have already stated that patients who have suffered from phlegmasia dolens after one labor, are very liable to have slighter returns, without apparent cause, after the next labor. When once the swelling takes place, the limb becomes useless; the patient can neither bend it nor place it on the ground.

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* Introduction, p. 506.

† Burns' Midwifery, p. 609.

The constitution, as might be expected, suffers considerably during the attack; the pulse becomes quick (from 100 to 140) though weak, the tongue white and coated, the thirst considerable, the countenance pale, the appetite lost, the bowels deranged, and the urine turbid. The patient is restless, and generally sleepless.§ In very severe cases there is more or less tenderness above Poupart's ligament and at the side of the uterus, the lochia may be diminished or deranged, and the internal genitals are tender.

With this account of symptoms, commencing perhaps with a rigor or chill, followed by pain in the abdomen, pain and swelling in the thigh and leg, quick pulse, &c., the acute stage may continue for one, two, or three weeks, when the more formidable symptoms having subsided, the patient is more comfortable, and the disease takes on a more local character. Dr. Stokes has remarked that the greater the swelling, the less formidable and more local the disease.

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* Midwifery, p. 609.

† Ed. Med. and Surg. Journal, vol. x. p. 102.

‡ Introduction to Midwifery, p. 507.

§ Burns' Midwifery, p. 608.

805. *Terminations.*—1. The disease may, and most frequently does, terminate in *resolution;* the general symptoms gradually subsiding, the disease becomes local; and after five or six weeks the swelling diminishes, the tenderness disappears, the general health is restored, and by slow degrees the patient recovers the use of her limbs. It is long, however, before the affected leg entirely loses its *wooden* feel, and attains its natural power of motion and sensation.

2. The subsidence may be still more gradual, the limb continuing swollen, with an occasional increase of the tumefaction for months, the patient having imperfect sensation in it, and imperfect command over it. In such cases I have noticed a dense, thickened feel of the skin, or sub-cutaneous cellular tissue; and in one or two cases the patient had an attack of cutaneous inflammation, resembling large hives (Urticaria), which lasted for a few days, and was somewhat painful, but then disappeared. The veins sometimes remain varicose,* but I should hardly think that this is the effect of the disease. It is more likely to have been the effect of the previous pregnancy.

3. *Suppuration* may take place, even to such an extent as to supersede and change the character of the original disease, and even to threaten death from exhaustion.

4. *Death* may occur, either suddenly, perhaps on the patient raising herself in bed; or more gradually, from exhaustion, from paralysis,† or from some of the secondary diseases consequent on phlebitis. Dr. Burns observes, "This is not generally a fatal disease, but it is tedious, and often accompanied with hectic symptoms. Death, however, may be caused by suppuration or gangrene; or by exhaustion, proceeding from the violence of the constitutional disease; or by exertion made by the patient, which has sometimes suddenly proved fatal; or, after the leg appears to be getting better, daily shivering with vomiting, pain in other parts, and rapid pulse, with delirium, precede death."‡

806. *Morbid Anatomy.*—1. On opening the limb it is found to be distended with serum, effused into the cellular membrane.

2. The vein is found to be obliterated in some part of its course by clots of blood firmly adherent to its parietes, which are thickened; its inner membrane is of a deep red color, the result either of staining or of inflammation—most probably the latter. A layer of coagulable lymph is sometimes found lining the different vessels, and they have been observed to contain purulent matter. The veins which have been found to participate in these changes are the femoral, the external, internal, and common iliacs of either side; the epigastric, spermatic, circumflexa ilii, the uterine, vaginal, and saphena veins, and the vena cava.

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* Lee on Diseases of Women, p. 119.

† Todd: Cyclop. of Pract. Med.; art. Paralysis.

‡ Midwifery, p. 609.

3. Evidences of inflammation of the absorbents have been found in a considerable number of cases, and in some, purulent matter has been detected, according to M. Bouillaud.*

4. M. Dugès has shown that inflammation of the nerves occurs, at least occasionally, as a complication of this disease.†

5. Proofs of the occurrence of the secondary effects of phlebitis may be found in different parts, especially in the serous cavities, and in the formation of abscesses of the limb, and even of more distant parts.

807. *Pathology.*—We are now in a condition to inquire into the pathology of this affection, which has given rise to so much dispute, and to such varieties of opinion. The older notions on the subject are mere speculations. For instance, Mauriceau considers it to be owing to a reflux upon the lower extremities of certain matters, which ought to have been evacuated in the lochia.‡ Puzos§ and Levret‖ attribute it to deposits of milk in the affected part (*depots du lait*); and the same opinion has extensively prevailed in these countries, as one of the popular names for the disease (milk leg) testifies. With some practitioners it was customary to keep the child constantly to the breast, to prevent the metastasis when threatened, or to remove it when it had occurred.

In the year 1784, Mr. White, of Manchester, published an inquiry "Into the nature and cause of that swelling of one or both of the lower extremities which sometimes happens to lying-in women;" and he suggested or adopted the opinion that the disease depends on obstruction, or on some other morbid condition of the lymphatic vessels and glands of the affected parts. Mr. Trye, of Gloucester, in an essay on this subject in 1792, attributed the swelling to a rupture of the lymphatic vessels, as they cross the brim of the pelvis, under Poupart's ligament. Soon after this, Dr. Ferriar maintained that there is a general inflammatory state of the absorbents in this disease. Dr. Hull (1800) considered the proximate cause of this disease to be an inflammatory affection, producing suddenly a considerable effusion of serum and coagulable lymph into the cellular membrane of the limb. All the textures—muscles, cellular membrane, lymphatics, nerves, glands, and blood-vessels—he supposed to become affected.

So far the opinions were a mixture of theory and observation, without any attempt to base them upon pathological research. The first light thrown upon the subject by a *post-mortem* examination, was by the late Dr. Davis, Professor of Midwifery in University College, London, who in 1817 examined the condition of the veins in a patient who had died with the disease, and found that they were the seat of extensive inflammation. The dissection is given as follows:—"March 6th, 1817. —The left lower extremity presented an uniform œdematous enlargement, without any discoloration, from the hip to the foot. This was found, on further examination, to proceed from the ordinary anasarcous effusion into the cellular substance. The inguinal glands were a little enlarged, as they usually are in a dropsical limb, but pale coloured, and free from the slightest sign of inflammation. The femoral vein, from the ham upwards, the external iliac and the common iliac veins, as far as the junction of the latter with the corresponding trunk of the right side, were distended, and firmly plugged with what appeared externally a coagulum of blood. The femoral portion of the vein, slightly thickened in its coats, and of a deep red color, was filled with a firm bloody coagulum, adhering to the sides of the tube, so that it could not be drawn out. As the red color of the vein might have been caused by the red clot everywhere in close contact with it, it cannot be deemed a proof of inflammation. The trunk of the profunda was distended in the same way as that of the femoral vein; but the saphena and its branches were empty and healthy. The substance filling the external iliac and common iliac portions of the vein, was like the laminated coagulum of an aneurismal sac, at least with a very slight mixture of red particles; the tube was completely obstructed by this matter, more intimately connected to its surface than in the femoral vein; adhering, indeed, as firmly as the coagulum does to any part of an old aneurismal sac; but in its centre there was a cavity containing about a teaspoonful of a thick fluid of the consistence of pus, of a lightish brown tint, and pultaceous appearance. The uterus, which had contracted to the usual degree, at such a distance of time from the delivery, its appendages and blood-vessels, and the vagina, were in a perfectly natural state. There was not the least appearance of vascular congestion about the organ, nor the slightest distension of any of its vessels. Its whole substance was, on the contrary, pale, and the vessels everywhere contracted and empty. The state of the abdominal cavity and its contents was perfectly natural. That the substance occupying the upper part of the venous trunk, and the fluid in its central cavity, had been deposited during life, from inflammation of the vessel, does not admit of doubt. I am also decidedly of opinion, in consequence of its firmness, and close adhesion to the vein, that the red coagulum in the femoral vein was the result of a similar affection extending along the tube; and that the passage of the blood through it, in the whole tract submitting to examination, must have been completely obstructed before death."* He then taught that phlegmasia dolens resulted from this cause, and in May, 1823, published a paper with cases and dissections.*

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* Dict. de. Med. et de Chir. Prat.; art. Phlegmasia dolens.

† Ibid.

‡ Mal. des Femmes Grosses, vol. i. p. 446.

§ Traitè des Acconch., p. 350.

‖ L'Art. des Accouch., p. 932.

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* Letter from W. Lawrence, Esq. in Davis's Obstetric Medicine, vol. ii. p. 1204.

In January, 1823, M. Bouillaud related several cases and dissections in which the crural veins were obliterated in women who had suffered from œdema of the lower extremities after delivery; and M. Bouillaud distinctly stated that he considered obstruction of the crural veins to be the cause not only of the œdema of lying-in women, but of many partial dropsies.† The date of this paper, although earlier than Dr. Davis's essay, in no way interferes with the claim of the latter to be the first who discovered and taught that phlegmasia dolens is essentially crural phlebitis. In 1824, M. Velpeau published some researches, from which he concludes that not only the veins are involved in the inflammation in some cases, but that inflammation of the lymphatics is at least as frequent a cause of phlegmasia dolens.‡

In 1826, Mr. Guthrie hinted that probably the inflammation of the veins of the leg might be merely an extension from the uterine veins, and Dr. Robert Lee has the credit of having demonstrated this in 1829, by tracing the diseased veins back into the uterus, and finding there the disease equally well marked: "The left hypogastric or external iliac vein," he says, "was in the same condition, but in some cases reduced to a cord-like substance, and its cavity throughout completely obliterated. The branches of this vein, taking their origin in the uterus, and usually termed the uterine plexus, were found completely plugged up with red coagula."§ More recently Dr. R. Lee has laid before the Med. Chir. Society the results of his experience in the following summary: "The paper contained the record of forty-three cases of phlegmasia dolens. The first nine cases were accompanied by *post-mortem* descriptions and preparations illustrating the disease; and the author was led, from the whole of the facts thus adduced, to the conclusions he had formerly expressed, "That the inflammation of the iliac and femoral veins gave rise to all the phenomena of phlegmasia dolens, and that the inflammation commenced in the uterine branches of the hypogastric veins, and from thence extended to the femoral trunks of the affected side." The next series comprised the history of twenty cases, which the author thought furnished additional evidence in favor of this conclusion, though, in consequence of the recovery of the greater number of the patients, an opportunity was not afforded of determining by dissection the actual condition of the crural veins. Nine cases followed, which demonstrated that phlegmasia dolens might occur wholly unconnected with pregnancy and parturition, and that in such cases the inflammation likewise commenced in the uterine branches of the hypogastric veins, and followed a course similar to what occurred in puerperal cases. In some of these the inflammation of the uterine veins was produced by cancerous disease of the os and cervix uteri; in others there was no organic disease of any kind previously existing. The concluding cases were five, in which crural phlebitis had followed inflammation of the saphena veins and of the deep veins of the lower extremities, from fracture of the tibia and fibula, and pressure of encephaloid tumors on the thoracic viscera.*

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* Medico. Chir. Trans. vol. xii.

† Lee on Diseases of Women, p. 149.

‡ Arch. Gén de Méd. Oct. 1824.

§ On Diseases of Women, p. 131.

MM. Petit, Gardien, and Capuron regard the disease as inflammation of the lymphatic vessels and glands.†

Dr. Burns adds another tissue as entering into the disease, for he remarks, "I consider that the nerves are implicated as much as the veins, and that whilst both may contribute, we shall find, in different cases, one or other predominate."‡ I am not aware whether this opinion was the result of *post-mortem* investigation or not, but it has since been confirmed by the researches of M. Dugès. Dr. Dewees agrees with Dr. Hull, and the able paper by M. Bouillaud so far coincides with his view, as that, in his opinion, inflammation of the symphyses, veins, lymphatics, and nerves, is the proximate cause of the disease.

So far, then, it appears established, 1, that in phlegmasia dolens there is inflammation of the veins of the thigh and leg: 2, that marks of inflammation are found at the commencement of these veins in the uterus; 3, that at least in some cases the lymphatics and nerves are involved in the inflammation, although probably not in the first instance, nor as a primary cause.

808. But still two very important questions remain: 1, does the inflammation originate in the crural vein itself, or does it originate in the uterus, and extend down the vein? 2. May not the inflammation of the vein be owing to some special condition to which it is secondary, as, for instance, some morbid condition of the blood?

In support of the latter view, Dr. Mackenzie read a paper at the Medico-Chirurgical Society (1853), founded upon a series of experiments on animals, in which he tried, 1, the application of ligatures to the iliac veins; 2, chemical and mechanical irritation of their lining membrane; and, 3, sustained compression of the femoral veins by metal plates. Without entering more fully into these experiments, I may give the conclusion which the author drew from them: "1, that inflammation of neither the iliac nor femoral veins would account for or give rise to phlegmasia dolens; 2, that the extensive obstruction of the veins met with in this disease is not producible by merely local causes, such as injury or inflammation of these vessels; 3, that irritation of the lining membrane of the veins, independently of such local injury or inflammation, will only give rise to obstruction of these vessels to an extent commensurate with that of the irritation which may have been excited within them; 4, that extensive irritation of the lining membrane of veins, giving rise to obstruction and all the phenomena of phlebitis, may be excited by the presence of various unhealthy matters in the blood circulating with this fluid, and determined upon particular portions of the venous system; 5, that the origin of the disease is therefore to be sought for rather in a vitiation of the circulating fluid than in any local injury, inflammation, or disease of the veins."*

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* Lancet, May 21st, 1853, p. 480.
† Mal. des Femmes, p. 551.
‡ Midwifery, p. 611.

Notwithstanding the ingenuity of the author of this paper, we cannot but feel that experiments of this kind are but imperfect illustrations of the effects of disease; and secondly, that in this disease, as the two conditions exist in most cases—viz. inflammation of the veins and a source of possible vitiation of the blood, it may be impossible to decide the exact limits of each.

After careful consideration and some experience, but without wishing to express myself dogmatically, the conclusions to which I have myself arrived are the following:—1, that in phlegmasia dolens of puerperal women the most striking and general pathological condition is inflammation and obstruction of the veins; 2, that in most cases this state of the veins extends to the veins of the uterus, where the disease in all probability originated; 3, various considerations, however, lead us to conclude that the disease of the crural veins is not a retrograde propagation of the disease from the crural veins, but that the first morbid process is a vitiation of the blood, and that the effects upon the limb are produced in the course of circulation, so that, although the uterine and crural phlebitis be continuous anatomically, they are pathologically separate and distant; and 4, that a vitiation of the circulating fluid, primary or secondary, may be a more important element of this disease in most, if not all, cases, than has hitherto been supposed.†

These conclusions will embrace all cases of phlegmasia dolens, both of the puerperal and non-puerperal state, and also those which occur in men, and I think they afford an explanation (so far as we can expect one) of many of the vital phenomena of the disease, as well as being consistent with the results of *post-mortem* investigations. At the same time, it cannot be denied that there is room for further research into the state of the blood circulating in the affected parts, and other minute points of chemical or microscopical interest.

809. *Causes.*—The exciting cause seems generally to be the impression of cold or previous uterine disturbance. Almost all the cases I have seen have occurred after leaving bed at too early a period after labor.

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* Lancet, March 19th, 1853, p. 276.

† British and For. Med. Rev. July, 1854, p. 71.

810. *Prognosis.*—Though we cannot say that the disease is without danger altogether, when severe, yet the proportion of deaths is so small, that in the great majority of even severe cases our prognosis may be favorable; still more decidedly when the attack is slight. The danger, I think, may generally be estimated by the amount of uterine disease. I have also verified Dr. Stokes' remark that the severity of the constitutional symptoms is often inversely as the swellng of the limb.

811. *Diagnosis.*—The characteristic marks of the disease are, the time of its occurrence—after delivery; the uterine symptoms preceding; the pain down the thigh and leg; the swelling; but especially the painful, hard, cord-like, femoral vein. When the greater part of these symptoms are present, there can be no doubt of the nature of the disease.

812. *Treatment.*—The condition of the patient after confinement will of necessity somewhat modify the activity of the treatment.

Generally speaking, venesection will not be required; but if the patient be of a plethoric habit, if she have in some degree recovered her confinement, and if the disease set in with great violence, it may be advisable. Leeches, in numbers proportioned to the severity of the attack, should be applied along the course of the femoral vein, to the groins, or to the calf of the leg, and a poultice applied when they fall off.* If decided relief be not obtained, they may be repeated in smaller numbers, once, twice, or thrice.

As the bowels are almost always in some degree disordered, appropriate remedies must be tried. If diarrhœa be not present, purgatives may be given, and we are advised to prefer the saline.† I have seen much benefit result from small doses of tartar emetic given along with the cathartic, during the acute stage. Saline effervescing draughts may also be given.

Different statements have been made as to the effect of blisters; some regarding them as specifics.‡ Mr. Sankey observes, "What I consider a specific is a blister applied to the calf of the leg, immediately on discovering the complaint. The first I apply to the calf of the leg, as the pain is generally most severe in that part, and there is less fear of its not healing than if applied lower. If required, I repeat them every two or three days, not at the same place, but higher or lower, according to the seat of the pain." Others, as Dewees, &c., altogether rejecting them as mischievous. My own experience is decidedly in favor of their utility, although in many cases turpentine fomentations will answer equally well.

In the more acute and severe cases, and especially if there be evidence that there is irritation or inflammation of the uterus, it will be advisable to give small and repeated doses of calomel and opium until either the symptoms give way or the constitution is brought slightly under mercurial influence. In milder cases an occasional mercurial purgative is beneficial, but it will rarely be necessary to continue its administration steadily.

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* Bateman's Report; Ed. Med. and Surg. Journ. vol. iii. p. 128.

† Dewees: Diseases of Females, p. 492.

‡ Ed. Med. and Surg. Journ. vol. x. p. 402.

When the pain is severe, or the patient irritable, restless, or sleepless, opiates will be found very useful, and with them, as Denman has recommended, we may combine diaphoretics or diuretics.*

When, by these means, the acute stage has been terminated, and the constitutional symptoms relieved, the local and general treatment must be changed. Gentle support may be afforded to the limb by a tight flannel bandage, and slightly stimulating frictions employed. In this stage, especially, the frequent applications of small blisters has been recommended. Dr. Denman thus expresses himself: "Then, also, but not sooner, it is necessary and proper to support the swelled limb by a slight flannel bandage, drawn gradually tighter, and to use different applications, such as the volatile liniment, or one composed of three parts linimentum saponis, and one part of tinct. cantharid., and sometimes small quantities of the ung. hydrargyri. The frequent application of small blisters to different parts of the limb has been also then strongly advised, and in many cases with evident advantage. Electricity has been tried; but of its real benefits I am not competent to judge. Certainly, many patients have been much relieved by persevering in the use of warm sea-bathing; and they are to be encouraged, but with some caution, to use exercise."

Tonics may also be given—decoction of bark or quinine, with dilute sulphuric acid, will be found the most serviceable. With these means must be combined an improvement in the diet, gradual, yet decided—meat broths, and a fair allowance of wine or malt liquor.

If at any period of the disease the lochia should become offensive, vaginal injections of tepid milk and water should be used once or twice a day.

CHAPTER XI.

PUERPERAL MANIA.

813. Females may suffer from an attack of mania during gestation, during labor, or after parturition. The two latter cases will occupy

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* Introduction to Midwifery, p. 509.

our attention in this chapter. The temporary delirium, or mania, which occurs during labor, was, I believe, first recorded by my friend, Dr. Montgomery. It appears at two particular periods of labor—first, as the head passes through the os uteri, and again, at its exit through the os externum. It would appear to be owing to the extreme suffering at these times, acting upon an irritable and nervous temperament. It is very temporary, generally lasting but a few minutes, and then subsiding. The most curious point about it is, that the patient is generally conscious of her incoherence. As Dr. Montgomery observes, "It comes on suddenly during perfectly natural labor, and most frequently at that particular stage of the process which I have pointed out (dilatation of the os uteri). It is not accompanied nor followed by any other unpleasant or suspicious symptom ; it occurs, perhaps, immediately after the patient has been talking cheerfully, and having lasted a few minutes, disappears, leaving her perfectly clear and collected, and returns no more, even though the subsequent part of the labor should be slower and more painful. In every instance which came under my observation, the patients were conscious that they had been wandering, and occasionally apologised for anything wrong they might have said, although they were not aware of what the exact nature of their observations might have been."* I have seen several cases of this kind, and, without exception, they corresponded very accurately with this description of Dr. Montgomery's. In one case the delirium, which occurred first during the dilatation of the os uteri, returned as the head was passing through the os externum ; and this patient informed me that she was conscious of talking nonsense, and had in vain endeavoured to resist it. Dr. Montgomery attributes this momentary incoherence to the suffering attendant upon the forcible distension and dilatation of the cervix. and there can be no doubt, I think, that this is the true explanation.

814. I shall now proceed to the consideration of *puerperal mania*, or that form of insanity which occurs in childbed soon after delivery, or at the commencement of suckling. It is a very distressing malady in itself, but doubly so from occurring at a moment ordinarily so joyful: and yet we cannot be surprised at the susceptibility manifested at this particular time, when we remember that "the sexual system in women is a set of organs which are in action only during half the natural life of the individual, and even during this half they are in action only at intervals. During these intervals of action they diffuse an unusual excitement throughout the nervous system: witness the hysteric affections of puberty, the nervous susceptibility which occurs during every menstrual period, the nervous affections of breeding, and the nervous susceptibility of lying-in women."†

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* Dublin Journal, vol. v. p. 61, old series.

† Gooch on the More Important Diseases of Women, &c. p. 127.

Attacks of puerperal insanity are not infrequent. Esquirol states, that of 600 women in La Salpetrière, 52 were of this kind; and of 1119 cases admitted in four years, 92 were cases of puerperal mania. He found it even more frequent in proportion among the higher ranks, for out of 144 cases of mental derangement in females of opulent families, the attack came on during childbed or lactation in 21. Dr. Haslam states, that of 1644 females in Bethlem Hospital, 84 were cases of this kind; and Dr. Rush mentions 5 cases out of 70 at the Philadelphia Lunatic Asylum.

The attack may, in some few cases, be a continuance or a further development of the nervous affections of pregnancy; the nearer the approach to mental derangement during this period, the greater the probability of an attack after delivery.

815. There are two periods, however, at which patients seem especially obnoxious to it—1st, immediately after delivery, to which the term *paraphrosyne puerperarum* has been given; and 2ndly, about the fourth or fifth day, when the full secretion of milk is established, and then it has been termed *mania lactea.* Dr. Burrows adds a third period—about the fourteenth or fifteenth day, and he then attributes it to the effect of cold in checking the secretion of milk. I find that of Esquirol's cases, 16 became delirious from the first to the fourth day; 21 from the first to the fifteenth day; 17 from the sixteenth to the sixtieth day; 19 from the sixtieth day to the twelfth month; and 19 after forced or voluntary weaning. Of Dr. Burrowes' cases, in 33 the access was before the fourteenth day; in 11, after the fourteenth and before the twenty-eighth day.

816. *Symptoms.*—The premonitory symptoms vary a good deal. In one sense, hereditary predisposition, or the nervous affections of gestation, are premonitory, but in most cases we shall generally find, previously to an attack, a degree of exhaustion, conjoined with great excitability, headache, and want of sleep; or the attack may accompany or follow convulsions, as I have seen in more than one case. Dr. Haslam remarks: "The first symptoms of the approach of this disease after delivery are, want of sleep, the countenance becomes flushed, a constrictive pain is often felt in the head, the eyes assume a morbid lustre, and wildly glance at objects in rapid succession; the milk is afterwards secreted in less quantity, and when the mind becomes more violently disordered it is totally suppressed."

Writers speak of various species of puerperal insanity, principally of two, however,—those cases in which the form is melancholia, or mania, and those in which phrenitis, or inflammation of the membranes of the brain, exists; the former is the true puerperal mania, and may be distinguished into two varieties—those where fever is present, and those in which it is absent. "Mania," says Dr. William Hunter, "is not an uncommon appearance in the course of the month, but of that species from which they generally recover. *When out of their senses, attended with fever, like paraphrenitis, they will, in all probability die;*

but when without fever, it is not fatal, though it (*i. e.* the fever) generally takes place before they get well. I have had several private patients, and have been called in where a great number of stimulating medicines and blisters have been administered; but they have gone on at another time talking nonsense until the disease has gone off, and they have become sensible. It is a species of madness they generally recover from, but I know of nothing of any singular service in it." "Putting together," says Dr. Gooch, "this statement of Dr. Hunter with my own experience, I extract from it the following meaning: that there are two forms of puerperal mania, the one attended by fever, or at least—the most important part of it—a rapid pulse; the other accompanied by a very moderate disturbance of the circulation; that the latter cases, which are very far the more numerous, recover; that the former generally die. This agrees closely with my own experience." Dr. Burrowes states that he has not seen any case attended with fever, "except when coincident with the first secretion of milk, or where inflammation of the breasts or other parts has occurred, or upon forced weaning, where there has been abundance of milk. But this is far from being generally true. I have seen several cases in which mania occurred before the secretion of milk, and yet the pulse was very quick, and the skin hot, with thirst, loaded tongue, &c.

In the one variety we find the attack preceded by wakefulness, excitability, headache, and after a while the mind is evidently astray; the patient may be joyous or melancholy, singing and talking incessantly, or obstinately silent, suspicious of every one, fancying injuries and offences on the part of her husband or friends, and forgetful of her child. The heat of the body may be slightly increased; that of the head is generally so, with a partial pain and sense of pressure or tightness, throbbing in the temples, and noises in the ears. The skin is generally relaxed and moist, but discolored; the face pale, the tongue whitish and loaded; the abdomen soft, and usually free from tenderness; the pulse weak and quiet; there is little, if any sleep, and but little thirst; the bowels are torpid, and the stools unhealthy, often offensive.

In other cases we find the skin hotter, the pulse quick and small, the face often pale, sometimes flushed, the eyes red and vivid, and a delirium more resembling that of fever, with a brownish dry tongue, and sordes about the teeth.

Dr. Burrowes has described an attack of puerperal mania, somewhat different from the above. "In every instance, this variety has come on before the fourteenth day from delivery; it is preceded by pervigilium, the ideas are at first rapid and confused, images like those of dreams appear, and the delirium is soon confirmed by these illusions being considered as realities, and the speech and actions corresponding with these impressions. The muscular powers are rarely violently exerted, though the patient frequently attempts getting out of bed, without any fixed object; on the contrary, she generally lies supine; the countenance is rather vacant; the eyes are half-closed, or fixed on vacuity, and, when roused, follow some imaginary object; the tunica conjunctiva is often highly injected, and the pupils very little sensible to light; the head is hot; the skin soft and relaxed, and partial sweating about the throat and neck. She continually mutters incoherently; loses consciousness, except when suddenly or strongly urged; if spoken to, answers shortly, and perhaps rationally, but lapses directly into the former state of indifference; the pulse is quick and uncertain; bowels generally easily moved; lochia and secretion of milk suspended. About the fourth or fifth day the debility is greater; there is more coma; the pulse is quicker, smaller, and more unequal, with slight subsultus; picking at surrounding objects, or the bed-clothes; averse from food and drink; insensible of evacuations; the tongue throughout presents nearly a natural appearance, though sometimes tremulous when protruded. It is usually fatal by the seventh or eighth day; and if the patient survive, chronic insanity commonly supervenes, and melancholia oftener than mania."*

That active inflammation of the brain or its membranes may occur during childbed is beyond question, but as it is very rare, and does not strictly belong to the question of puerperal mania, I shall not at present enter upon its consideration.

Thus, then, we may have an attack of mania supervening upon delivery, or occurring from the fourth to the fourteenth day, with or without precursory symptoms; in two varieties the main distinction appears to be in the pulse—in one it is quick, in the other natural; the third variety resembles low fever.

The state of the uterus is apt to be overlooked, because there are but few symptoms, if any, referrible to it, and partly also because the patient is not always able to answer questions rationally. As far as my own experience goes, I should say that, 1, in certain patients no uterine complication occurs at all; 2, that in others, the uterus becomes involved in the course of the maniacal affection; and 3, that in some we may trace distinct marks of uterine disorder from the commencement, such as suppressed milk, offensive lochia, and tenderness in some part of the uterus. I suspect, moreover, that a division of these classes into two, will correspond very closely with Dr. Gooch's classification by the pulse; the first class, and part of the second, presenting almost always a quiet pulse; the severer cases of the second, and all the third, having the pulse rapid, with high fever.

In all the varieties the stomach and bowels are much disordered. The character of the mania is not in any way peculiar to child-bed

817. The *progress*, *duration*, and *termination* of the attack vary a good deal in different patients. Dr. Burrowes observes, that sometimes the slighter attacks which occur immediately after delivery will

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* Commentaries on Insanity, p. 371.

disappear under the operation of a smart purgative, and an opiate. Of the 92 cases given by Esquirol, 55 recovered: 4 recovered in the first month, 7 in the second, 6 in the third, 7 in the fourth, 5 in the fifth, 9 in the sixth, 15 between the sixth and twenty-fourth, 2 after two years. Of these, 38 recovered in the first six months. Of 37 cases given by Dr. Burrowes, 35 recovered: 9 recovered in the first month, 5 recovered in the second, 5 in the third, 3 in the fourth, 2 in the fifth, 4 in the sixth, 1 in the seventh, 2 in the eighth, 1 in the ninth, 1 in the twelfth, 1 in the fourteenth, and 1 in the twenty-fourth month. That is, 28 recovered in the first six months. Of 80 cases by Dr. Haslam, 50 recovered.

But it may continue much longer. Of the cases described by Esquirol, 6 died; 1 six months after delivery, 1 in a year, 2 after eighteen months, 1 in three years, and 1 in five years. In Dr. Burrows' table, it is stated that 1 recovered after two years, 1 after three years, 2 after four years, 1 after six years, and 1 after seven years; but he says that he never met with one permanently fatuous from puerperal insanity. Of Esquirol's 92 cases, six died, or one in 15. Of Dr. Haslam's 80 cases, 50 recovered. Of Dr. Burrowes' 57 cases, 10 died, or 1 in 6; 7 within twelve days of the access of delirium, 2 within seven weeks, and 1 after four months. Two of them had active uterine disease, and two others died of relapses after they had recovered from puerperal mania. Thus we find that the number of cases that recover is very considerable; out of 229, 146 recovered, or more than one-half. Of 90 of those who recovered, 66 were cured within six months, and the remainder at irregular intervals up to two years. Some we find continue insane much longer, remaining so for four, five, six, and seven years. But, on the other hand, a large proportion of deaths has sometimes occurred: 1 in 15 at La Salpêtrière, and 1 in 6 among Dr. Burrowes' cases.

I do not think, however, that any statistics from a lunatic asylum can be taken as a correct standard of the mortality in puerperal mania, for patients are not sent there until the disease is more or less chronic; now, a great number of those who recover do so within a very short time after confinement, as in two cases I witnessed lately, both of which recovered from the delirium within ten days. Among the better classes, a patient would not be placed in an asylum until she had recovered from her confinement, and until the ordinary treatment had failed. On the other hand, death occurs in many cases within the month after childbed. "Mania," says Dr. Gooch, "soon after delivery, is more dangerous to life than melancholia beginning several months afterwards." He states, also, that none of his patients with a slow or moderately excited pulse died, whereas, in the fatal cases, the pulse was very rapid, though some with a rapid pulse recovered. In the two cases I have referred to, the pulse was very rapid, yet both recovered. "Nights passed in sleep, a pulse slower and firmer, even though the mind continue disordered, promise safety to life. On the contrary, incessant sleeplessness, a quick, weak, fluttering pulse, and all the symptoms of increasing exhaustion, portend a fatal termination, even though the condition of mind may be apparently improved. In the cases which I have seen terminate fatally, the patient has died with symptoms of exhaustion, not with those of an oppressed brain, excepting only one case."*

I should myself lay great stress, in forming a prognosis, upon the presence or absence of uterine complication, as well as upon the frequency of the pulse. Any complications, indeed, must diminish the chance of recovery.

818. *Causes.*—I shall now consider the *causes* of this distressing malady. There seems little doubt that in many cases (Dr. Burrowes says in half the number, or possibly more, and Dr. Gooch bears the same testimony) the predispositon is hereditary, and of course, mental deviations during gestation render an attack of puerperal mania extremely probable. Sleeplessness, which so fearfully increases nervous irritability, seems a very general predisposing cause.

Among the exciting causes we find cold, irritation, irregularities of diet, distress of mind, sudden mental shocks, frights, disordered bowels, excessive secretion of milk, and constitutional irritation thence arising, &c.; or the attack may form a part of or follow convulsions, as in a case which came under my care not long since.

Great stress is laid upon moral causes by the French writers. Esquirol, as I have before mentioned, states their frequency, compared with the physical, as four to one; and Georget mentions that out of seventeen cases, there were but two not proceeding from a direct moral cause. During the invasion of France, in 1814-15, eleven out of fourteen cases were from terror. British writers do not attribute so large an influence to this cause.

819. As to the *proximate cause* or *pathology*, it is not very easy to speak positively. I may allude to four different views on the subject: 1. from its occurring in many cases immediately after delivery, some have attributed it to disease of the uterine system. Fabret mentions a case of cancer which excited mania. Dr. Briere has related a case of mania from inflammation of the womb. Dr. Cooke discovered disease of the womb in two cases of puerperal mania. Dr. Burrowes mentions having seen abortion and mania, the result of inflammation of the womb, in two cases in which he was consulted; one died, and the other recovered; and in two of the deaths in his table there was disease of the uterus, but whether it preceded the mania or not, does not appear. In one of the species of puerperal mania described by Dr. Burns, he says, "the delirium is connected with the state of the

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* Gooch on Diseases of Women, p. 124.

uterus, particularly of the veins, which are inflamed.* At a meeting of the Obstetrical Society of Dublin, Dr. Montgomery mentioned a case of puerperal mania in which the uterus and ovaries were found in a state of inflammation; and Dr. Hardy another in which peritonitis existed, but was not suspected till after death. I have certainly seen uterine inflammation follow puerperal mania, but that it existed previously I cannot say: the usual symptoms were absent. Still these cases, which are all I have been able to make out, form so very small a proportion of the cases in which there has been no disease of the womb, that without denying that the condition of the uterine system is in some way connected with puerperal mania, it is clear we cannot attribute it solely to organic disease of that organ.

820. Other writers regard the disease as inflammation of the brain or its membranes. Now it is granted, of course, that such cases do occur, but they are rare; and it is contended that in ordinary cases puerperal mania does not arise from inflammation, and the results of *post-mortem* examinations are in favor of the latter opinion. Burns, Campbell, Davis, Lee, and others, speak of it as a modification of phrenitis; Burrowes, Pritchard, Gooch, &c. as not being inflammatory. The latter distinguished observer thus gives the result of his experience: "In No. 1, the disease occurred in a pale lady, without any heat of skin or much quickness of pulse, and was not relieved by loss of blood. In No. 3, it occurred in one whose constitution was drained and enfeebled by nursing. In No. 4, it occurred in a pale woman, habitually hysterical, subject to bear dead children, from want of power to afford them life for nine months. In No. 5, it occurred in one in whom, for urgent reasons, the circulation had been reduced to the lowest ebb consistent with life. In No. 7, in one who had been living very low for a week, with such marked symptoms of the irritation of debility, that at first sight I thought it was the close of some disease that had been overlooked. It was speedily relieved, not by cupping and purging, but by the tranquillizing and sustaining power of opium. In No. 8, the disease was treated, though with all possible prudence and moderation, as an inflammatory state of the brain, by leeches, cupping, purging, and low diet; yet the patient died, not with symptoms of oppressed brain, but with those of exhaustion; and on examining the body the whole venous system was found extraordinarily empty of blood. In No. 10, the patient fell as if shot, under the stroke of the lancet; and on examining the head, there was found no effusion, and empty bloodvessels. In No. 11, the disease came on after puerperal convulsions (a disease generally, but not always, depending on cerebral congestion), and after one of those enormous bleedings commonly practised in these cases, and no morbid appearances were

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* Midwifery, p. 619.

discovered after death, in the brain. These cases, if fair specimens of puerperal insanity, lead straight to the conclusion that the disease is not one of congestion or inflammation, but one of excitement without power."* Add to this, that Esquirol found no traces of cerebral inflammation upon most careful examination.

3. Dr. Marshall Hall believes that the disease "results, in general, from all the circumstances following parturition combined, but chiefly from the united influences of intestinal irritation and loss of blood." "I am persuaded," he adds, "that real puerperal phrenitis is comparatively a rare disease, that puerperal mania is seldom of an inflammatory character, and that it is especially to be treated by those measures which are suited to the mixed case of intestinal irritation and exhaustion."† That many cases occur in patients exhausted from some cause, the extract I have given from Dr. Gooch will prove, and that the stomach and bowels are disordered in most cases is recorded by almost all writers, so that we cannot deny that Dr. M. Hall's view has much to support it. Nevertheless, it does not seem to express the whole truth, nor is the want easily supplied with any degree of precision.

4. The explanation of Dr. Gooch, which I have already quoted, as to the peculiar nervous susceptibility induced by the organic changes consequent on impregnation and child-bearing, although I believe it to be correct, is necessarily vague; nor is the view of Dr. Ferriar more accurate. He says, "I am inclined to consider puerperal mania as a kind of conversion. During gestation and after delivery, when the milk begins to flow, the balance of the circulation is so greatly disturbed as to be liable to much disorder from the application of an exciting cause. If, therefore, cold affecting the head, violent noises, want of sleep, or uneasy thoughts distress a puerperal patient before the determination of blood to the breasts is regularly made, the impetus may be converted to the head, and produce either hysteria or insanity, according to its force or the exciting cause."

Perhaps it is best simply to enumerate the elements which may concur to produce the attack. We have the nervous shock varying in degree, but always increasing the nervous irritability; the great vascular change; the disturbance of respiration and circulation; the exhaustion; and in many cases the loss of blood; this combination must necessarily leave the nervous system in a favorable state for the operation of the exciting causes I have enumerated, and the result is mania.

821. *Treatment.*—The treatment of puerperal mania is very simple as regards the materials, yet requiring calmness and judgment in their application.

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* Diseases of Women, p. 144.

† Diseases of Females, p. 251.

1. Those who regard it as any modification of phrenitis, of course recommend blood-letting, with more or less liberality. Now, from what I have said as to the nature of the disease, it will be clear that in most cases it is inadmissible, or, if ever used, it must be with extraordinary caution, and by means of leeches, in cases where there is strength and quickness of pulse, and flushing of the head and face. I have, however, never found it advisable; and Esquirol, Haslam, Gooch, Burrowes, and Pritchard, are all opposed to it. The last-named author remarks: "If we consider that the greatest danger to be apprehended for patients laboring under puerperal madness arises from a state of extreme exhaustion, that many women die from this cause within a short interval from the commencement of the disease, and that, if they survive this period, the healthy state of the mind is in most instances restored, it will be evident that our chief endeavours must be directed to the present support of life." "Bloodletting, as a general remedy for puerperal madness, is condemned by all practical writers on whose judgment much reliance ought to be placed."*

2. When the stomach is overloaded, when indigestible food has been taken, or even for the purpose of lowering pulse by the shock of vomiting, emetics have been found useful. They must, however, be used with caution when the face is pale, the skin cold, and the pulse quick, and weak. Dr. Gooch prefers ipecacuanha to antimonials. Dr. Burrowes recommends nauseating doses of tartar emetic, with the saline mixture and digitalis, for the purpose of reducing the violence and fury of the patient; and Dr. Beatty informs me that he has derived great advantage from tartar emetic.

3. From the almost universally disordered state of the bowels, great relief is afforded by one or two brisk purgatives of calomel, followed by castor oil or Gregory's powder. The stools are dark-colored, and highly offensive; and in addition to the advantage of clearing out the bowels, purgatives act admirably as derivatives from the head.

4. After the bowels have been freed, the greatest benefit will be derived from narcotics. Denman prefers small and repeated doses of opiates, but Gooch, Burrowes, and Pritchard recommend full doses, and with this I concur: ten grains of Dover's powder, twelve drops of black drop, or an equivalent of the other preparations of opium. If opium disagrees, hyoscyamus must be given; and should sleep be induced, repeated small doses may be administered; when the head is very hot, and the face flushed, we should postpone the exhibition of opium; and we must guard against constipation.

In a case recently under my care, in which opiates had no effect in quieting the patient or procuring sleep, we tried the inhalation of chloroform, and with great benefit: she became quiet, ceased talking, and occasionally was put to sleep for an hour or two at a time. The case, however, terminated unfavorably, from the co-existence of uterine inflammation. In another case when large opiates had failed, it was equally successful, and the patient recovered.

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* On Insanity, p. 313.

5. The head may be shaved, and a cold lotion applied; if the delirium continue, a blister may be applied, but it is not generally necessary.

6. In protracted cases, or when the patient is exhausted, nourishing diet, broths, &c., and even tonics, must be allowed; ammonia, with cinchona; oil of turpentine, wine, &c.

7. As uterine inflammation not uncommonly arises in the course of or follows puerperal mania, a close watch should be kept for the earliest symptoms, and if they appear, calomel in small and repeated doses, or mercurial inunction, should be added to the other remedies, with such other local applications as may be deemed advisable.

8. It will be necessary to keep the most careful watch upon the patient; the nurse, who ought if possible, to be one familiar with such attacks, should never leave the room; friends ought to be absolutely refused admission; the apartment kept slightly darkened, and the entire house perfectly quiet.

9. When the mania disappears, and the patient is convalescent, a change of air and scene is most advisable.

CHAPTER XII.

EPHEMERAL FEVER, OR WEID.

822. This is a short attack of fever, to which females are especially liable during the early part of their convalescence, though it may occur at a later period. Women of sensitive constitutions are the most obnoxious to it.

823. *Causes.*—The most frequent cause is the impression of cold, perhaps on rising from bed, or changing the room, &c. Indigestion, or irregularity of the bowels, may also give rise to it. Fatigue, mental agitation, and want of rest are also enumerated among the exciting causes.

824. *Symptoms.*—The attack commences by general uneasiness, palpitation, and shivering, with headache, pain in the back and limbs, soreness of the breasts, thirst, rapid, and sometimes irregular pulse, &c. "On or before the approach of the disease," says Dr. Campbell, "the patient is observed to yawn and stretch herself greatly, and to appear very languid. To this succeeds a sensation of cold, first between the shoulders, and thereafter along the spine; and at last it

becomes general over the whole body, attended with pain in the head and large joints. Sometimes a sense of soreness is felt in the uterine region, and if the lochial discharge be present, both it and the milk are diminished in quantity."* To this succeeds a well-marked hot stage, with flushed face, throbbing temples, pain over the eyes, rapid full pulse, pain of the breasts, soreness of the abdomen, &c. and it terminates in a profuse sweat, which removes the fever, and relieves the other symptoms. The tongue is coated, the stomach is often disturbed, and the bowels confined. During the paroxysm, the fever often runs very high, and the distress is proportionally great. Occasionally the mind is confused and distressed, and in some cases the patient is delirious. For the time, the secretion of milk is diminished or suspended, and the lochia also; but they return after the paroxysm.

The fit is generally completed in twenty-four hours, always in forty-eight, and, if properly treated, it seldom returns; if neglected, however, it may assume the form of an intermitting, or continued fever. "It consists of a cold, hot, and a sweating stage; but if care be not taken, the paroxysm is apt to return, and we have either a distinct intermitting fever established, or sometimes from the co-operation of additional causes, a continued and very troublesome fever is produced."† Unless it assume this character, it is of very little consequence, and very easily managed.

825. *Diagnosis.*—From the violence with which it commences, it may easily be mistaken for puerperal fever; but the cessation of the paroxysm after some hours, and the absence of marked abdominal tenderness, will generally enable us to distinguish it. Indeed, the peculiar violence with which it commences is itself more characteristic of weid than of puerperal. "The suddenness of the attack, the great irregularity of the pulse, the absence of all local pain except that of the head, the intensity and irregularity of the succession of the different stages, will distinguish this from every other puerperal affection."‡

826. *Treatment.*—During the cold stage, hot bottles and warm bedclothes may be applied, so as to relieve the distress. Warm drinks and cordials may also be given.

During the hot stage, a comfortable quantity of clothing must be continued, and diaphoretics given, so as to favor perspiration; and during the sweating stage, we must guard against cold, and diminish the clothing very gradually.

As for purgative medicines, which are necessary, I have found the combination of salts, senna, and tartar emetic the most useful; but any other purgative may answer the purpose. If the tongue be foul, and the stomach loaded, an emetic may be advisable.

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* Midwifery, p. 341.

† Burns' Midwifery, p. 572.

‡ Campbell's Midwifery, p. 541.

Very rarely will it be necessary to take away blood, and then only if there be much local pain. A few leeches to the head, or the breasts, if they be painful, may be of use; but in the majority of cases they are unnecessary.

We should carefully examine the state of the uterine system, as irritation may otherwise go on unsuspected, and be the cause of much subsequent distress.

The diet may be nutritious after the paroxysm is over, and even mild tonics may be given, if necessary. Dr. Campbell recommends five-grain doses of camphor, four or five times a day, for some days, to allay nervous irritability.

Great care must be taken, after the fever has terminated, to avoid all occasion of cold, or any cause which may reproduce the attack.

CHAPTER XIII.

SORE NIPPLES.

827. This is a very frequent and troublesome occurrence, and far more painful than would be supposed. It is more frequent with first children, but some women suffer from it after each confinement. It comes on generally after two or three days' suckling, and continues for an uncertain time, after which it generally subsides.

828. *Causes.*—In the majority of cases, it is simply the reiterated application of the child which causes it, by removing the sebaceous secretion—so that the skin, when dry, contracts, slightly hardens, and cracks. This process is aggravated by a slight degree of inflammation. But sore nipples may be owing to the state of the child's mouth, as is frequently seen when the child suffers from aphthæ; and on the other hand, the discharge from the nipple may inflame and excoriate the child's mouth.

829. *Symptoms.*—At first the nipple and areola are observed to be dry, rough, and harsh; then a great number of minute cracks may be seen; or the surface becomes excoriated, and pours out a serous discharge, which in some cases is acrid, and spreads the excoriation to the surrounding skin. Or the nipple may exhibit deeper fissures, dividing it into two or three portions. Lastly, in some cases the nipple becomes ulcerated, and part, or nearly the whole, destroyed. Each attempt at suckling makes the nipples worse for some time, and occasions them to bleed. The torture to the patient is very great, and it

requires all her fortitude to persist in nursing, at the cost of so much suffering.

But this is not all, for if the inflammation be great, it is often propagated along the lymphatics to the mammary gland, and then gives rise to inflammation and abscess.

830. *Treatment.*—To prevent this disorder, the nipples should be washed with soap and water, and dried, and afterwards bathed with spirit and water, night and morning, during the last month of pregnancy. In many cases this will be successful. A combination of white wax and butter is a popular remedy, and is often useful. Stimulating ointment, such as ung. hyd. nit., diluted with axunge, is sometimes of service; or the parts may be touched with burnt alum, nitrate of silver, or dusted with some mild dry powder.

When excoriation or "chapping" has occurred, spirit lotions may be applied, or one forméd of sulphate of alum, zinc, or copper, acetate of lead, &c., dissolved in rose water; but the one I have found most effectual is a weak solution of nitrate of silver, to be applied after each time of suckling—care being taken to wash the nipple previous to the next application of the child. Mr. Druitt recommends a solution of five grains of pure tannin in an ounce of distilled water.* Dr. Johnson thinks highly of the following lotion and ointment, which may be applied alternately, or either alone.†

℞ Subborat. sodæ, ʒij.
Cretæ præcip. ℥ij.
Sept. vini,
Aquæ rosæ, āā ℥iij. M. Ft. lotio.

℞ Ceræ albæ, ʒivss.
Ol. amygdal. dulc., ℥j.
Mel. despumat., ℥ss. dissolve ope caloris, dein adde gradatim Bals. Peruvian. ʒiiss.
Ft. ung.

Drs. M'Clintock and Hardy speak well of the tincture of catechu in simple excoriated nipples.

In two cases of ulcerated or fissured nipples, Prof. Simpson drew the edges together, and covered them over with a pretty strong layer of the solution of gun-cotton. This maintained the edges so firmly together, that suckling did not re-open them, and consequently, they soon healed. I have tried it, but with a less successful result.

Various mechanical means have been contrived to cure the disease.

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* Braithwaite's Retrospect, vol. x.

† M'Clintock and Hardy's Midwifery, p. 14.

Nipple shields, of wood, ivory, or silver, may be procured, which, intervening between the child's mouth and the nipple, will often relieve the irritation altogether. But in many cases the child cannot draw the milk through them, and then we may have recourse to "calves teats," properly prepared, or to a piece of chamois leather, shaped and protruded in the form of a nipple, and pierced with many holes. If any of these plans succeed, the nipple will heal in a few days, and the child may be again applied to it.

Feeding the child two or three times in the day, or giving it to another person to nurse, will facilitate the cure, provided we do not allow the milk to accumulate too much, in which case inflammation may be excited, and terminate in abscess.

In very few cases is it necessary to give up suckling. Even if our remedies fail, the irritation will generally subside in a fortnight or three weeks.

CHAPTER XIV.

INFLAMMATION AND ABSCESS OF THE BREAST.

831. Females are obnoxions to inflammation of the breast during pregnancy, after delivery, and at any period of suckling; but more especially with first children, and during the first three months of nursing.

832. *Causes.*—The irritation and congestion which take place for the secretion of milk vary in amount. If these be within certain limits, the secretion takes place with slight feverishness for a day or two; the breast becomes hot, tense, and painful, and unless the usual means reduce this extreme irritation, it will run on into inflammation and abscess. This excessive congestion may be regarded as the most frequent cause of mammary abscess, soon after delivery, and with first children. Dr. Burns observes, "Some have the breasts prodigiously distended when the milk first comes, and the hardness extends even to the axillæ. If, in these cases, the nipples be flat, or the milk do not run freely, the fascia, particularly in some habits, rapidly inflames. Others are more prone to have the dense substance, in which the acini and ducts are embedded, or the acini themselves, inflamed."* Exposure to cold, mental emotion, moving the arms too much at the time the breasts are so much enlarged, are all said to give rise to it. Inflammation very frequently extends itself from the nipples, along the lymphatics, to the deeper tissues, as already mentioned.

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* Midwifery, p. 623.

833. *Symptoms.*—The severity of the symptoms will depend upon the depth and extent of the inflammation. When the subcutaneous cellular tissue and the skin alone are involved, there will be some local pain and soreness, with a circumscribed hardness and tension, and a blush of inflammation upon the skin. But when the fascia or gland is involved, the pain is very severe, extending to the axilla; the swelling considerable, the tension great, and the constitution suffers proportionably. The pulse is quick and full, the skin hot, there are headache, thirst, sleeplessness, &c. The skin covering the inflamed part may be of a uniform red, or red in patches. If the gland be inflamed, the breast has a nodulated feel, as if it consisted of several large tumors. The secretion of milk is, at least for a while, suspended; but it will take place after the acute stage has somewhat subsided.

After the inflammation has continued some time, suppuration takes place, and the matter makes its way to the surface. This occurrence is marked by shivering, followed by heat and perspiration, and a sense of fluctuation in the tumor, which is prominent and smooth. The pointing is frequently in the neighbourhood of the nipple. By degrees the intervening substance is absorbed, and the cuticle giving way, the matter is evacuated. The matter of superficial abscesses is simple, or, as it is called, "laudable" pus; but when the abscess is more extensive, sloughs of cellular tissue and fascia are discharged. In a healthy person, when the matter has been completely evacuated, the abscess soon heals up, leaving only a degree of hardness for some time.

Such is the general course of the disease; but there are some important variations. "It sometimes happens," says Dr. Burns, "if the constitution be scrofulous, the mind much harassed, or the treatment at first not vigilant, that a very protracted and even fatal disease may result. The patient has repeated and almost daily shivering fits, followed by heat and perspirations, and accompanied with induration or sinuses in the breasts. She loses her appetite, or is constantly sick. Suppuration slowly forms, and perhaps the abscess bursts; after which the symptoms abate, but are soon renewed, and resist all internal and general remedies. On inspecting the breast, at some point distant from the original opening, a degree of œdema may be discovered—a never-failing sign of deep-seated matter there; and by pressure, fluctuation may be ascertained. This may become distinct very rapidly, and therefore the breast should be carefully examined at least once a day. Poultices bring forward the abscess, but too slowly to save the strength, and therefore the new abscess, and every sinus which may have already formed or existed, must be at one and the same time freely and completely laid open; and so soon as a new part suppurates, the same operation is to be performed. If this be neglected, numerous sinuses form, slowly discharging fœtid matter, and both breasts are often thus affected. There are the daily shiverings, sick fits, and vomiting of bile, or absolute loathing at food; diarrhœa, and either perspiration, or a dry, scaly, or leprous state of the skin; and sometimes the internal glands seem to participate in the disease, as those of the mesentery; or the uterus is affected, and matter is discharged from the vagina. The pulse is frequent, and becomes gradually feebler—till, after a protracted suffering of some months, the patient sinks."*

834. *Treatment.*—The first *indication* is to subdue the inflammation, and so prevent the formation of an abscess. For this purpose, the patient may be bled if the fever run high; or a number of leeches may be applied, and repeated if necessary, followed by a large soft poultice, or fomentations. When the bleeding has ceased, the poultice or fomentations may be continued; or an evaporating cold lotion substituted. "A convenient and simple mode of applying warmth is to immerse a wooden bowl in hot water, and having wrapped some flannel around the breast, place it in the bowl. By this means an effectual and equable warmth may be kept up for a considerable length of time."†

The bowels should be briskly purged by saline medicines, and their effect is much increased if tartar emetic, in moderate doses, be joined with them. "I have been in the habit of combating this affection in a way first communicated to me by my friend the late Mr. Gregory, who employed it with great success in the Coombe Lying-in Hospital. The remedy to which I allude is tartar emetic, whose power of controlling inflammatory affections of the breast would lead one to imagine that it excited a specific action on the mammary gland. On the accession of inflammatory symptoms in the breast, after purging the patient, I administer this medicine in doses of one-sixteenth of a grain, repeated every hour, so as to induce slight nausea. It is never my object to cause free vomiting; and if this should occur, I omit the medicine for an hour or two, and then recommence its use at longer intervals. In ordinary cases, I usually find, after twenty-four hours, that the pain and fever are mitigated, and the breasts are smaller and softer."‡ Indeed, this medicine has a more powerful effect in abating inflammation of the breast than any I have ever tried. The diet should be bland, and chiefly fluid. The milk should be gently drawn away at intervals, and the breast supported by a sling.

When we find that our efforts are unavailing to prevent the formation of matter, the second *indication* must be fulfilled. We must facilitate it as much as possible, and by no means can it be done more effectually than by constant poulticing—changing the poultice three or four times a day. Opium alone, or in combination with salines, should be given, to lessen the pain and induce sleep.

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* Midwifery, p. 625.

† Earle: London Medical Gazette, vol. x. p. 153.

‡ Dr. Beatty: Dublin Journal, vol. iv. p. 340.

There is some difference of opinion as to the propriety of opening the abscess when the matter is detected. My own experience coincides with Cooper's rule:—"Perhaps, as a general rule, the surgeon should never wait for an abscess of the breast to approach the surface, but make an opening as soon as the slightest degree of fluctuation is perceptible; for if this be not done, and the abscess is not very superficial, the matter will spread, and form sinuses in different directions."[*] Sir A. Cooper remarks: "If the abscess be quick in its progress; if it be placed on the anterior surface of the breast; and if the sufferings which it occasions are not excessively severe, it is best to leave it to its natural course. But if, on the contrary, the abscess in its commencement is very deeply placed—if its progress be tedious—if the local sufferings be excessively severe—if there be a high degree of irritative fever, and the patient suffer from profuse perspiration, and want of rest, much time is saved, and pain avoided, by discharging the matter with a lancet."[†]

When quite superficial, a longer delay may be allowed; but I am quite satisfied that it is better to open them than to allow them to open spontaneously.

After the matter is discharged, the diet may be improved; and if a considerable discharge continue, tonics may be necessary. The opiate at night may be continued for a short time, and then omitted. If the abscess be small, the child may suck the affected breast; but if large, it had better be artificially drawn, and the infant confined to the other breast. In some cases the child must be removed altogether, as the suckling may lead to abscess in the sound breast. When all inflammation has ceased, but the abscess still continues to discharge, especially in large ones, the cure will be hastened by strapping the breast with an adhesive plaster, as recommended by Mr. Phillips, and by Drs. M'Clintock and Hardy.[‡]

When sinuses form, the only remedy is to lay them all open. It will require care to prevent the patient sinking. Wine, bark, and good diet will be necessary.

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[*] Cooper's Surgical Dictionary, p. 946.

[†] Sir A. Cooper on Disease of the Breast, p. 10.

[‡] Pract. Observations, p. 16.

CHAPTER XV.

TETANUS.

835. ALTHOUGH tetanus is a very fatal affection, yet it has been considered so rare an attendant upon childbed that it is scarcely noticed by any writer upon diseases of women. However, Dr. Simpson has collected a sufficient number of cases to prove that it should no longer be overlooked, and I shall therefore give a brief abstract of its peculiarities, for which I am indebted to his excellent paper.*

It was formerly believed that tetanus was more common among females than males, but modern statistics have reversed this opinion, for of 128 cases of traumatic tetanus collected by Mr. Curling,† 112 were males and 16 females; and of 221 cases collected by Professor Laurie, of Glasgow, 185 were males and 36 females. Of 1069 fatal cases in the Registrar General's reports, 829 were males and 240 females; so that the males were nearly 4 to 1 of the females.

836. Tetanus may occur from injury of the *unimpregnated* uterus, although this is very rare, for Professor Simpson gives a case in which he removed a large cellular polypus "by slight traction" from the uterus, and on the ninth evening lock-jaw came on, and terminated fatally in about fifty-five hours.

837. It may also occur *after abortion*, as was held by very ancient authorities; but it is not peculiar to first pregnancies, or to any period of pregnancy. Of the seven cases collected by Dr. Simpson, one related by Dr. Tyler,† and one by Mr. B. Dossabhoy,‡ several had families, and the period at which miscarriage took place varied. Nor was there any regularity in the period which elapsed between the miscarriage and the setting in of tetanus. In one it occurred a few days after; in another on the sixth day; in a third on the seventh; in a fourth on the eighth; in a fifth on the 13th day, and in a sixth a fortnight after the miscarriage. In Dr. Moore's case it occurred on the eighth day,§ in Mr. Dossabhoy's on the sixth day, and in Mr. Annan's on the 13th.‖ All the patients died: one in 60 hours; one in 70 hours; three on the third day; one on the fourth day; one on the seventh day. Mr. Annan's on the 11th day, Dr. Moore's on the 13th day; Mr. Dossabhoy's case recovered.

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* Ed. Monthly Journal, Feb. 1854, p. 97.

† Dublin Journal, vol. iii. p. 360, new series.

‡ British and For. Med. Chir. Rev. July, 1856, p. 27.

§ Dublin Journal, Feb. 1856, p. 225.

‖ Edin. Monthly Journal, Nov. 1856.

In most of the cases there was nothing peculiar about the miscarriage; in some the ovum was not immediately thrown off; and in others there was so much hemorrhage as to require the plug. In Dr. Tyler's case the placenta which presented was removed. How far the irritation of the persistent ovum, or of the plug, or the removal of the placenta may have had anything to do with the production of tetanus, it is perhaps difficult to say. The plug is used every day without any such effects, but it is possible that in certain states of the nervous system it may not be altogether innocuous.

The symptoms of tetanus were in no respect unusual—commencing with a degree of stiffness about the jaws, and they shortly became rigid and the body retroflexed by tetanic spasms.

Dr. Simpson observes that "in surgical pathology enquiries have been instituted, with a view of ascertaining if there was any kind of settled connexion between the existing state of the wound and the occurrence of tetanus, but without much success. Surgeons seem generally agreed upon the fact that while the tetanic disease very frequently supervenes when the external wound appears in all respects perfectly healthy, in about an equal proportion of other instances it comes on when the wound is unhealthy, inflamed, or sloughing. In some of the preceding examples of obstetrical tetanus supervening after miscarriage, the lesion or wound left on the inside of the uterus by the abortion, seems to have been "in a healthy state," as far as could be ascertained; in others it was so far unhealthy as to have been a source of morbid sanguineous oozing and hemorrhage. In none of the examples of obstetrical tetanus included in this or the next division, does there appear to have been any tendency to inflammation of the uterus."*

As an illustration of the disease, I shall quote one of the cases given by Professor Simpson. "Case 8. Mrs. ———, the mother of several children, had a miscarriage at the third month. A slight degree of hemorrhage followed. On the eighth day after the abortion this discharge suddenly ceased, and a feeling of stiffness soon after supervened in the masseter muscles. Next day the jaws were quite locked and the head was bent backwards with tetanic spasms, the muscles of the jaw and neck being fixed and rigid. The eyeballs were also sunk and the eyelids partially closed. The patient however was able to speak, but the deglutition of fluids was impossible. The pulse was 72; the bowels constipated and flatulent; and the urinary secretion natural. There was no discharge from the uterus, and no uneasiness or pain in that region. The pulse betimes became weaker and the tetanic paroxysms more and more severe and frequent; and she sank and died in about twenty hours after the appearance of the first symptoms of tetanus. The body was examined by Mr. Crossken and Dr. Fleming about thirty-six hours after death, and as the morbid appearances were in some respects peculiar, I will state them in Mr. Crossken's own words. 'The uterus was about the ordinary size. Its substance and internal lining membrane were emphysematous throughout, full of air vesicles and crepitating under the fingers. In fact, it was like a piece of lung, and resembled it also by floating in water. There was however,' he adds, 'no appearance whatever of decomposition.'"[*] Dr. Tyler's case is as follows—he was sent for to see a poor woman in the fourth month of pregnancy who had alarming hemorrhage: "On examination the os uteri was found dilated to the size of a crown piece, with the placenta attached centrally over it, the hemorrhage profuse and increasing with every pain. The placenta was extracted and an attempt made to hook down the fœtus with the finger, which failed. A slight draining continuing, a plug was then introduced, which checked it; ergot of rye was administered, without however producing any good results. On the second day the plug was removed, and with it a portion of placenta which had been left: the os uteri was found, on examination, to be now nearly closed. On the fourth day she complained of pain in her back, but not of such a character as to attract particular attention. Six days after this, her only complaint being weakness, she was ordered light nourishment, chicken broth, &c. No particular change occurred till the thirteenth day, when she first complained of her throat, and of inability to open her mouth; she could only swallow fluids, and even those with difficulty. An examination being instituted, the os uteri was found perfectly contracted and impervious: she had experienced severe pain in the back all night, with occasional spasms of the facial muscles. On the following day the jaws were completely locked, and the body bent backwards in a state of opisthotonos; death finally put an end to her sufferings on the sixteenth day."[†]

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* Edin. Monthly Journal, Feb. 1854, p. 105.

838. Lastly, tetanus may occur after parturition, and Dr. Simpson has collected eighteen such cases, to which we may add 232 cases by Mr. Waring and some others. It is not more frequent after the first confinement than after subsequent ones; but as to the period of the attack, Dr. Simpson observes that it seems to be governed "by the same laws as regulate the occurrence of the disease after abortion or after surgical operations and injuries. Under all of these conditions the tetanic attack usually does not commence till about a week after the occurrence of the exciting obstetrical or surgical lesion. According to some statistics published by Romberg,[‡] in more than a half of all the instances of surgical tetanus—or in 112 out 208 cases—collected

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[*] Edin. Monthly Journal, Feb. 1854, p. 104.

[†] Dublin Journal, vol. iii. p. 360, new series.

[‡] On Nervous Diseases, vol. ii. p. 105.

by him, the attacks set in between the third and tenth days after the receipt of the injury or the occurrence of the operation."[*] Of Dr. Simpson's cases it is mentioned that in one it occurred soon after delivery, in one on the second day, in one on the third, in one on the fourth, in four on the fifth, in one on the sixth, in one on the seventh, in two on the fourteenth, in one on the seventeenth day, in one after three or four weeks, and in one after seven weeks. In Dr. Woodhouse's case it occurred on the eleventh day.[†] Of Mr. Waring's 232 cases seven were attacked the first day, thirty-two the second, twenty-nine the third, twenty-three the fourth, twenty-two the fifth, thirty-two the sixth, fifteen the seventh, fourteen the eighth, fifteen the ninth, fourteen the tenth, two the eleventh, nine the twelfth, four the thirteenth, one the fourteenth, one the seventeenth, one the eighteenth;[‡] in Dr. Patterson's case it occurred on the fourteenth day.[§]

The duration of the disease exhibited greater uniformity; in one case it proved fatal in fifteen hours, in two on the second day, in two on the third, in one on the fourth, in one on the fifth, in one on the sixth, and in one on the seventh day. Dr. Woodhouse's case lived two days, and Dr. Paterson's ten days. Five cases of recovery are recorded, *i. e.* if we take the whole number of twenty-six cases of puerperal tetanus, four out of every five died.

839. *Symptoms.*—There was nothing peculiar in the character of the tetanic symptoms, except that early in the attack it may be mistaken for a species of sore throat, and our attention diverted from the prompt treatment of a very severe affection. The following case by Dr. Storrer, of Boston, U. S.[‖] will afford a good illustration of the disease.

"Mrs. C——, aged 28, and the mother of two children, was delivered at the full time of an infant that weighed eight pounds. The umbilical cord broke off near its origin in endeavouring to extract the placenta. After some unsuccessful attempts to detach the after-birth, it was considered proper to desist from further efforts. The attendant hemorrhage was slight. During the five following days the pulse remained good and the patient free from fever or uterine pain. Towards the commencement of the sixth a fragment of placenta was removed from the vagina, and, after the use of ergot, two other placental masses were expelled, decomposing and offensive in smell. On the seventh day the pulse was, for the first time, above 100, small and wiry, and the patient complained of pain in the head, considerable stiffness of the jaws, and difficulty in swallowing. The symptoms rapidly increased during the day, and at night the tip of the tongue could scarcely be protruded between the teeth. The muscles of the neck and jaws had also become much more painful; the respiration was laborious; and at irregular intervals tetanic spasms were present. Next day (the eighth after the birth of the child) the muscles of the face were so rigid that the jaws could not be separated in the slightest degree. The merest touch seemed to distress the patient, and to hurry on the spasmodic attacks which occurred every few minutes. The head was retroverted on the pillow; and so firmly contracted were the muscles of the neck, that when the hand was placed behind her occiput, the whole body was brought forward, the neck not being flexed in the slightest degree. When the spasms were present, the patient's sufferings appeared to be extreme. The paroxysms increased in frequency until about midnight of the eighth day after parturition, when she sunk, exhausted by opisthotonos. Throughout there was not any symptoms of uterine or peritoneal inflammation."

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[*] Edin. Monthly Journal, Feb. 1854, p. 105.

[†] Association Journal, Feb. 9th, 1855.

[‡] British and Foreign Med. Chir. Rev. October, 1856, from Indian Annals.

[§] Glasgow Med. Journal, Oct. 1856, p. 274.

[‖] American Journ. of Med. Sciences, Jan. 1842, p. 97.

840. *Causes.*—It is difficult to enumerate with precision the exciting causes of this terrible disease, but I may notice that in the cases related there seems reason to attribute some to cold and others to injuries; in one there was hemorrhage, in which the plug was used, in another the placenta was retained until putrid. In a case related by Mr. Finucane it followed the operation of turning, and in a case of Prof. Dubois the Cæsarian section. Dr. Patterson's case followed natural labor, and the convalescence was perfect. It seems more frequent in hot climates than in cold; but Dr. Simpson has shown that in these countries the season of the year has little or nothing to do with its production. Thus Mr. Waring has published an account of the disease occurring in puerperal women at Bombay, from which it appears that in three years, ending Dec. 1852, no less than 232 women died from it, and the number appears increasing. The mortality is somewhat greater during the wet season.

Cold, injuries, operations, and perhaps the presence of putrifying matter in the uterus, appear to be, therefore, the principal exciting causes. As to the pathological character of the disease, Dr. Simpson attributes it to the lesion of the internal surface of the uterus, which he considers analogous in its operation to the external wounds, producing tetanus, and the reason why it does not more frequently cause it, may be from the uterus being almost entirely supplied with nerves from the sympathetic system: but further, "the disease, when developed, essentially consists of an exalted or superexcited state of the reflex spinal system, or of some segment or portion of that system. What circumstances in midwifery or surgery might possibly, whether singly or in combination, produce this state, and so produce traumatic tetanus?" Dr. Simpson suggests that perhaps some morbid condition of the blood, or some centric irritation or morbid condition of the spinal cord, or some irritation propagated along the nerves, from the seat of the injury or wound to the central portions of the nervous system, may afford an explanation of its production, and may constitute the essential condition of the disease; and perhaps the various investigations now carrying on may throw some light on this obscure disease.

841. *Treatment.*—For the general treatment of this disease I must refer my reader to the various standard surgical authorities. Local remedies are out of the question in these cases, and as to constitutional treatment, the most important means, as Dr. Simpson judiciously observes, are, 1. "The greatest possible quietude and isolation of the patient from all irritation, corporeal and mental, during the course and for some time after the disease. 2. The special avoidance of painful and generally impracticable attempts at opening the mouth in order to swallow; but sustaining the strength of the patient and allaying thirst by enemata, or by fluids applied to the general surface of the body. 3. If there be any well-grounded hope of irritating matters lodged in the bowels acting as an exciting or aggravating cause, to sweep out the intestinal canal at the commencement of the disease with an appropriate enema. 4. To relax the tonic spasms of the affected muscles and diminish the exalted reflex excitability of the spinal system, by sedatives and antispasmodics, with the prospect of either directly subduing this morbid reflex excitability, or of warding off the immediate dangers of the disease, and allowing the case to pass on from an acute and dangerous attack to a sub-acute and far more hopeful and tractable form of the malady."

Of the cases whose recovery is recorded, I find that in one extensive bleeding was adopted, with musk and valerian; in a second blistering and warm baths; in a third bleeding and warm baths; in a fourth turpentine injections, and a fifth cold immersion.

The sedatives which have been most used are opium by the mouth, and tobacco enemata; to which may be added belladonna, stramonium, hemlock, henbane, musk, camphor, Indian hemp, hydrocyanic acid, valerian, &c. as having been by different authors strongly recommended. It cannot be said, however, that the evidence in their favor is very conclusive, and I confess that I should hope more from the use of chloroform or ether than from any of them. "Chloroform," Dr. Simpson observes, "in sufficient doses acts as a direct sedative upon the reflex nervous system, and upon exalted muscular contractility. In consequence of this action, it affords one of our surest and most manageable means of allaying common convulsive attacks; and it has now also, according to the reports in periodical medical literature, been repeatedly successful in the treatment of traumatic tetanus,* whilst it has apparently also repeatedly failed in subduing the more acute forms of the disease. Perhaps some of the failures have arisen from the patient not being kept sufficiently deeply and continuously under the action of the drug. If used in tetanus its action will require to be sustained for many hours, or oftener perhaps for many days. And there is sufficient proof of the safety with which its continuous action may be kept up under proper care and watching." The following case of puerperal tetanus will best illustrate its treatment by chloroform; it is related by Professor Laurie of Glasgow.

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* See, for example, Dr. Ranking's Abstract, vol. ix. p. 239 (three successful cases). Brit. and For. Med. Rev. 1851, p. 464 (two *successful cases*), &c. &c.

"Mrs. B———, a fine young woman, æt. 24, in the third month after her third pregnancy, miscarried on Jan. 4, 1854. She lost a considerable quantity of blood and required plugging, cold and pressure, but was so well on *Sunday the 8th* that I ceased my attendance. On *Thursday the 12th* she complained of stiffness about the lower jaw, but not suspecting the nature of her illness, she did not send for me till late on *Saturday the 14th*. I found tenesmus well marked, the spasm not extending beyond the neck, and the pulse nearly natural. Every attempt to swallow gave great pain and produced a spasm in the muscles of the neck and larynx, which threatened instant suffocation. I forbade all attempts at swallowing, ordered nutritive enemata with 50 or 100 drops of laudanum every six hours, and pectra to the neck, with aconite and chloroform. There was little change till the night of *Monday the 16th*, when the pulse had risen to 120, and the spasms had greatly increased, but had hardly extended beyond the neck; deglutition was impossible. I immediately exhibited chloroform, which acted admirably, and gave instant relief. I taught her husband and mother how to use it, and she has since been more or less constantly and nearly continuously under its influence. *Thursday the 18th* the pulse was 96, and she swallowed with comparative ease. *To-day, Friday the 20th*, she is not quite so well, the pulse is 108, the abdominal muscles rather tense, and the rectum will not retain the enemata. For this last occurrence I was of course prepared, and since the 15th she has been carefully rubbed with oil, butter, and cream. She still swallows tolerably well." "One symptom I have forgotten, which is often one of the most distressing, a constant cough from accumulated mucus, which cannot be raised or got rid of. In two days it has disappeared. I now anticipate recovery."*

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* As some of my readers may wish to refer to the original records, I add the references to those cases which Dr. Simpson has quoted from authors. Velpeau on Puerperal Convulsions, p. 232. Dr. Aubinais, of Nantes, Rev. Med. Chir. vol. v. p. 149. Art. Tetanus, Dict. des Sciences Med. Dr. Colles: Dub. Journal, No. 30, p. 288. Dr. Christie: Ed. Med. and Surg. Journ. vol. viii. p. 415. Mr. Dickenson: Lond. Med. Repos. vol. i. p. 192. Mr. Finucane: Lancet, June 2nd, 1838. Dubois: Lancet, Feb. 29, 1840. Mulder: Wacker's

CHAPTER XVI.

CONVULSIONS.

842. THE next disease I shall notice is that affection of the nervous system termed convulsions—*i.e.* a convulsive seizure of the entire body and extremities, omitting those partial attacks which we see occasionally, although they be of a convulsive or spasmodic nature. The complication is a very frightful and a very dangerous one, and may occur either *during gestation*, *immediately before*, *during* or *after parturition.*

The variety of opinions and methods of treatment which have been put forth, seems mainly to have arisen from confounding the different species of convulsion: and in order to avoid this, I shall describe three varieties—the *hysteric*, the *epileptic* and the *apoplectic* convulsion.

843. HYSTERIC CONVULSIONS.—This variety is confined to the period of gestation, and is more frequent during the early months than subsequently. Females of a nervous or hysterical constitution are the most obnoxious to the attack.

Causes.—Want of sleep, or excessive fatigue, may give rise to hysteric convulsions, or they may be caused by disordered digestion.

844. *Symptoms.*—The attack is generally preceded by a tightness about the throat, by sobbing, or repeated attempts at swallowing. The patient then becomes still or motionless, or may roll about from side to side. The hands are frequently pressed upon the breast, or carried to the neck, as though to remove some obstruction. The face is generally, though not always, pale, and not distorted; no froth issues from the mouth, nor are there the convulsive motions of the lower jaw, by which in epilepsy the tongue is sometimes severely bitten. In many cases the muscles of the back are violently contracted, which Dr. Dewees thinks a pathognomonic symptom. The patient is not insensible, though she cannot express her feelings or wishes. After this state has continued for a longer or shorter time, the sobbing becomes more violent, or the patient screams and sheds tears, and the fit thus terminates. A great quantity of limpid urine is also discharged.

Diss. de Articulis exterp. 1810. Merriman: Synopsis, p. 339. Dr. Symonds: art. Tetanus, Cyclop. of Pract. Med. Dr. Currie: Mem. *of Med. Soc. of London*, vol. iii.

The paroxysm may be a single occurrence, or return after a time, with the same phenomena.

It does not generally influence the progress of gestation, though I have seen premature labor take place during the paroxysm. The mother's health may be rendered rather more delicate, but it is not seriously compromised by the disorder.

845. *Diagnosis.*—1. *From epileptic convulsions.*—The body is but slightly contorted; there is no complete insensibility; there is no frothing at the mouth, nor biting the tongue, nor stertorous breathing; and after the fit is over, the patient recovers her usual state—the reverse of all which symptoms occurs in epileptic convulsions.

2. *From apoplectic convulsions.*—In these the patient loses consciousness and voluntary motion at first, and ultimately all motion ceases. This is not the case in hysteric convulsions: besides which, in the latter the breathing is not stertorous, and the patient soon recovers.

846. *Treatment.*—If the pulse be quick (which is not ordinarily the case), or the head ache, venesection may be practised, or a few leeches be applied to the forehead; but this is rarely necessary. In most cases, antispasmodics, combined with diffusible stimuli (valerian or assafœtida, with ammonia), will relieve the patient. Volatile alkali, held to the nostrils, is useful; or cold water dashed upon the face.

When the paroxysm is over, a moderate dose of opium may be given; and, after a sound sleep, the patient will find herself nearly restored. The stomach must be attended to. Tonics may be given if necessary, and aperient medicine.

847. 3. Epileptic Convulsions.—This variety is by far more frequent than either of the others.

848. STATISTICS.—*Frequency.*

Authors.	Total Number of Cases.	Convulsions.
Dr. Bland.	1,897	2
Dr. Jos. Clarke	10,387	19
Dr. Merriman	2,947	5
Dr. Granville	640	1
Dr. Cusack	398	6
Dr. Maunsell	848	4
Dr. Collins	16,654	30
Dr. Beatty	399	1
Dr. Ashwell	1,266	3
Dr. Mantell	2,510	6
Dr. Churchill	600	2
Drs. Hardy and M'Clintock	6,634	13
Dr. F. H. Ramsbotham .	68,435	67
Mr. Earle.	4,320	8
Mr. Rose	600	2
Mr. Bailey	2,819	11
Dr. Toogood	1,135	1
Dr. J. Lee	850	2
Mr. K. Watson	800	4
Dr. Copeland . . .	1,290	3
Dr. Arneth	6,527	13
Mad. Boivin	20,357	19
Mad. Lachapelle . . .	38,000	61

Thus we have 273 cases of convulsion in 190,313 cases of labor: or 1 in about 693¾.

On the whole, the *mortality* is considerable, though probably much less so than formerly. Jacob states that in his time scarcely any survived. Dr. Parr, in his Med. Dictionary, that six or seven out of ten die. Dr. Hunter, that the greater portion were lost.

Authors.	Cases of Convulsions.	Mothers lost.
Mr. Gifford	4	2
Dr. Smellie	8	2
Mr. Perfect	14	5
Dr. Bland	2	0
Dr. Jos. Clarke	19	6
Dr. Merriman	36	8
Dr. Ramsbotham	25	10
Dr. Maunsell	4	2
Dr. Collins	30	5
Dr. Beatty	1	0
Dr. Churchill	2	0
Dr. Mantell	6	2
Drs. Hardy and M'Clintock	13	3
Dr. F. H. Ramsbotham	43	3
Dr. Arneth	13	4
Dr. Meigs	29	3
Dr. Huston	13	2

Thus, out of 254 cases, 57 mothers were lost, or about 1 in 4½.

Women of all temperaments may be attacked, but it is more common, as Dr. Collins has remarked, "in strong plethoric young women with their first children; more especially in such as are of a coarse make, with short thick necks."* Dr. Ramsbotham has stated that "women with large families are equally or perhaps more liable to be assailed." This, however, is not borne out by numerical investigation, for of thirty-six cases related by Dr. Merriman, twenty-eight were with first children. Of Dr. Ramsbotham's own cases, more than two-thirds were with first children; and of Dr. Collins' thirty cases, twenty-nine were with first children.

849. *Causes*.—Various and very obscure have been the explanations of the causes of puerperal convulsions. Dr. Locock thus enumerates them: "The immediate causes of puerperal convulsions are often very obscure. They appear sometimes to depend upon a loaded state of the brain; at other times the brain appears to be influenced by distant irritation, either in the uterus or digestive organs; and again, in some cases, puerperal convulsions are induced apparently by a peculiar irritability of the nervous system. It has been remarked,

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* Pract. Treatise on Midwifery, p. 199.

that there has been a greater disposition to puerperal convulsions in those patients who have been in early life subject to convulsive attacks, particularly of an epileptic character; and also in those who have suffered similarly in former labors, and have omitted those measures usually employed as precautions. That the uterine organs are in some way particularly implicated, is evident from the convulsions being of a character which may be said to be peculiar to the state of either pregnancy or parturition." "The immediate attack may be brought on by a loaded or disordered stomach, or by food, however small in quantity, of an indigestible kind. Some substances (shell-fish for instance) have been found very frequently to induce convulsions in the puerperal condition, when at other times they may have been taken by the same individual with perfect impunity. A sudden fright, afflicting intelligence, or any unexpected or depressing mental emotion, may excite the paroxysm; hence it has been long remarked, that unmarried women are more particularly likely to be sufferers from convulsions, from the shame and distress under which their children are usually born. The violent straining caused by labor pains, from disturbance of the frame by the earlier uterine contractions, causing a temporary rush of blood to the head, will sometimes bring on convulsions."[*]

The application of Dr. Marshall Hall's theory, however, by Drs. Thompson, Murphy, and Tyler Smith, has thrown much light upon the matter. The former gentleman insists that no injury to the cerebrum or cerebellum can cause convulsions, so long as the true spinal system is not involved, in which Dr. T. Smith agrees with him. He then states that the proximate cause of puerperal convulsion consists in a morbid irritation of the true spinal system, and more especially of the medulla oblongata, propagated to it from the mucous surfaces, through the incident nerves of the excito-motor system.[†]

Dr. Murphy[‡] enumerates, among the proximate causes, morbid irritation of the uterus from hyperæmia or anæmia, and morbid irritation of other organs, and regards the whole as a beautiful illustration of the reflex nervous function: the peripheral nerves that supply the affected organ rapidly communicating their irritation to the spinal system, which, as an excito-motor centre, radiates the irritation over the whole of the voluntary muscles, and the muscles of respiration. Even the involuntary muscles, as the uterus and heart, do not escape.

Dr. Tyler Smyth, in his admirable work, has entered into a most elaborate investigation of the causes of convulsions: after which he observes:—"In conclusion, to give a summary of the whole subject, the true puerperal convulsion can only occur when the central organ of this system, the *spinal marrow*, has been acted on by an excited condition of an important class of its incident nerves, namely, those passing from the uterine organs to the spinal centre, such excitement depending on pregnancy, labor, or the puerperal state. While the spinal marrow remains under the influence of either of these stimuli, convulsions may occur from two series of the causes: those acting primarily in the spinal marrow, or *centric* causes; and secondly, those affecting the extremities of its incident nerves; causes of *excentric* or peripheral origin.

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[*] Cycl. of Pract. Med.; art Puerperal Convulsions.

[†] Essay on the Epileptic form of Puerperal Convulsions. Ranking:- vol. viii. *p. 313.*

[‡] *Lectures in* Med. Gazette, Jan. 1849.

"I. Causes acting immediately on the central organ:—1. Pressure exerted on the medulla oblongata by congestion, coagula, nervous effusion within the cranium. 2. Loss of blood. 3. Morbid elements in the blood. 4. The influence of emotion.

"II. Causes acting on the extremities of excitor nerves:—1. Irritation of the incident spinal nerves of the uterus and uterine passages. 2. Irritation of excitor nerves within the cranium. 3. Irritation of the incident spinal nerves of the rectum. 4. Irritation of the ovarian nerves. 5. Irritation of the gastric and intestinal branches of the pneumogastric nerves. 6. Irritation of the incident spinal nerves of the bladder. 7. As probable causes may be enumerated, irritation of the cutaneous nerves of the mammæ, and of the hepatic and renal branches of the pneumogastric. Though the subject distinctly admits of this division, several causes may act together, and centric and excentric causes may be in operation at the same time. I have made no attempt at a division into predisposing and exciting, proximate and remote causes, as other authors have usually done, because it is evident that a cause which, in one case, is the exciting or proximate, may, in another, be the predisposing or remote cause."* Subsequently, Dr. Tyler Smyth endeavours to explain the operation of the causes, and to trace the gradual progress from the slight commencement up to the completion of the convulsive paroxysm; but the investigation, though able, and full of interest, is too long for quotation, and I must refer my readers to his work, with an assurance that the perusal of the whole will abundantly repay them.

Among the most common exciting causes are usually enumerated intemperance in eating and drinking; mental emotion; fright, as in the case related by Denman, of a lady who was going on a party of pleasure, and whose carriage broke down; she was near the time of her lying-in, and was very much frightened, though she received no apparent injury. When she fell into labor, this was preceded by convulsions, in which she died undelivered. †

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* Parturition and Obstetrics, p. 306.

† Introd. to Midwifery, p. 429.

Mr. Robbs has related a case[*] in which the convulsions seem to have been owing to the irritation of worms; at least, they ceased on the expulsion of two large lumbrici.

Dr. Cormack has published an excellent paper on the connexion between renal congestion and puerperal convulsions.[†] He considers that in many cases the latter are the toxicological results of non-elimination of the excretions of the blood, and that in the greater majority of cases this non-elimination depends upon renal congestion, caused by the pressure of the gravid uterus.

Atmospheric influence, according to M. Dugès,[‡] appear to have some peculiar effect in producing the disease, so that it assumes the character of an epidemic. This is confirmed by the observation of Dr. Ramsbotham, who observes:—"I have repeatedly remarked, among the numerous patients of the Royal Maternity Charity, as well as among others to whom I have been accidentally called, that several cases have occurred soon after each other. Whether this fact ought to be attributed to mere chance, or to the agency of some general principle upon the female system, I must leave to others to determine in future; but I am inclined to suspect that it may be ascribed to the latter principle. And here I may be allowed to observe, that I have witnessed the occurrence of several cases during warm weather; at a time when the clouds have been charged with electric fluid; when atmospheric appearances have threatened a thunderstorm, and when, perhaps, they have ended in one."[§] And most practitioners probably have had occasion to remark the occurrence of several cases about the same time, as if they depended upon some general cause.

850. In considering the exciting cause of the disease, we cannot overlook the occurrence of albumen in the urine. Hamilton[‖] and Demanet[¶] first stated that puerperal convulsions were liable to be preceded by anasarca, and their observations were confirmed by the highest authority. Dr. Simpson and Dr. Lever[**] were the first to connect this dropsy with that condition of the kidney which gives rise to albumen, and since their time, the researches of Cahir and Bouchut, Rayer, Depaul, Cazeaux, &c. have confirmed and extended their observations. That in a large proportion of cases of convulsion there is albuminuria, with or without anasarca, there can be no doubt; but, on the other hand, albuminuria may occur without convulsions, and

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[*] Med. Gazette, Sept. 21st, 1849.

[†] Lancet, April 13th, 1850.

[‡] Dict. de Méd. et de Chir. Prat. vol. vi. p. 541.

[§] Pract. Obs. in Midwifery, vol. i. p. 250.

[‖] Duncan's Annals of Med. vol. v. p. 313.

[¶] Recueil péridique de la Société de Méd. vol. ix. p. 110.

[**] *Guy's Hospital Reports*, 1843.

convulsions without albuminuria. For example, Dr. Blot[*] found albumen in the urine of 41 pregnant women out of 205, and chiefly in primiparæ; and Dr. Litzmann[†] examined the urine of 131 females, 79 during pregnancy, 80 during labor, and 80 after delivery; albumen was present in 37, and absent in 95; of the 37, 26 were primiparæ. What is the exact relation between the two it is difficult to say precisely. I believe, with Dr. Simpson, that they both stand in the relation of effects of another cause, viz. "a pathological state of the blood, to the occurrence of which pregnancy someway disposes."[‡]

Many authors have assumed the previous occurrence of epilepsy, as a predisposing cause of puerperal convulsions, as I did myself in the previous editions of this work, but I am induced to think this very doubtful. In the work from which I have quoted, Dr. Tyler Smith observes that "the suspected affinities between epilepsy and puerperal convulsions deserve attention. It would seem, *à priori*, that epileptics, or persons who have been subject to convulsions during infancy, would be far more liable than others to attacks of convulsion during the puerperal state. It would also seem probable that patients suffering from puerperal convulsion should become subsequently liable to epileptic attacks. But experience does not positively support either of these probabilities."[§] In a more recent publication he mentions, that in fifty-one pregnancies occurring in fifteen epileptic subjects, only two had puerperal convulsions,[‖] and the experience of Drs. Hardy and M'Clintock confirms this view.

Of those cases of severe epilepsy before marriage which have come under my care, in one only was there any attack during gestation or parturition; whilst in the numerous cases of puerperal convulsions I have seen, I have not known one in which the convulsions returned in the absence of pregnancy.

There is a curious instance on record of periodical convulsions during the time of gestation only. "The wife of a citizen of Ferrara, twenty years of age, of a bilious constitution, and the mother of three children, was attacked with *periodical epilepsy* whenever she conceived, and sustained a paroxysm of that malady once a fortnight during the whole of her gestation; but as soon as she was delivered, the disease left her. Its occurrence, therefore, was always to her a sign that she had become pregnant."[¶]

I have seen a case something like this. A lady was attacked by convulsions of an epileptic character the first time she conceived, and they were repeated at the moment of quickening. She escaped an attack during her second pregnancy, but was seized at the moment of conception the third time. She passed through her labor without the least threatening of convulsion.

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[*] L'Union Médicale, 10 Oct. 1852.

[†] Deutsche Klinik, May, June, July, 1850.

[‡] Ed. Monthly Journal, Oct. 1852, p. 369.

[§] Parturition and Obstetrics, p. 323.

[‖] Med. Gazette, 1849, vol. ix. p. 1074.

[¶] Comm. by Lanzoni, Ephem. Germ. dec. ii. an. 10, p. 160.

851. *Symptoms.*—The symptoms in epileptic convulsions resemble very closely, if they are not identical with, those of ordinary epilepsy. In the majority of cases there are certain premonitory symptoms. The patient, for some time previous, suffers from pain in the head, giddiness, confusion, ringing noise in the ears, obscure vision, temporary loss of sensation, rigors, nausea, or even vomiting. The face is flushed, and the eyes injected. Dr. Hamilton, senior, mentions, as peculiar, an intense pain in the forehead ; and Dr. Denman, a severe pain in the stomach, and these, he thinks, are the worse kind of cases. Osiander has noticed a tumid state of the hands and face preceding the attack. Most practitioners are familiar with a dropsical swelling of the face alone, or face and upper extremities, which is not uncommonly followed by convulsions, and which we may regard undoubtedly as a precursory symptom, if the urine be at the same time albuminous. Dr. Simpson and Dr. Lever, were the first to direct our attention to this point, and their observations have since been confirmed by Bouchut, Depaul, Cazeaux, &c. Albuminuria is present in almost all cases of convulsions, but it does not follow that convulsions are inevitable where there is albuminuria. As a rule, we may say that in such a case a patient is in danger of convulsions, but the threatening may pass off with, or less frequently without, treatment. Generally speaking, the albuminuria is a temporary condition, from which the patient recovers a short time after delivery. As to the relation of cause and effect, it may be, as Dr. Simpson* suggests, that the dropsy, convulsions and albuminuria, are simultaneous and successive results of some central cause, to wit, a morbid state of the blood, induced, in some way, by pregnancy. In some few cases, however, there are no precursory symptoms; the patient has no warning until the moment before she becomes insensible. The "aura epileptica" is seldom felt.

As the attack approaches, the symptoms are aggravated; the pupils become dilated, the face more injected, the eyes fixed, and the patient loses consciousness.

During the attack, the face is swollen, of a dark red or violet color and distorted by spasmodic contractions; the eyes are agitated, the tongue protruded, and the under jaw repeatedly closed with force, so as to wound the tongue. A quantity of froth is ejected from the mouth, which is generally drawn more to one side of the face than the other. The muscles of the body are thrown into violent and irregular action; the limbs are jerked in all directions, and with such force that it is sometimes difficult to keep the patient in bed. The respiration is at first irregular, and being forced through the closed teeth and the foam at the mouth, has a peculiar hissing sound; it subsequently becomes nearly suspended. The pulse is quick, and at the beginning, full and hard, but afterwards small and almost imperceptible. The body participates in the purple color of the face. The urine and fæces are often passed involuntarily. This terrible paroxysm, however, is not of very long duration. After a period varying from five minutes to half an hour, the convulsive movements become less violent, and gradually subside; the countenance is less distorted, and assumes a more natural and placid appearance; the eyelids close, the respiration becomes more regular, though still sibilant, and the circulation is restored, the pulse becoming more perceptible, though still very quick; the patient rests quietly in bed, and the paroxysm has terminated for the time.

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* Ed. Monthly Journal, Oct. 1852, p. 371.

During the interval, the patient's condition is very variable. She may partially recover consciousness, so as to recognise persons around her, and to be aware of something extraordinary having happened, without knowing what, and without being able to express herself clearly. In other cases, the return of intelligence (but without recollection) may be complete until the approach of the next fit, accompanied with great weakness, headache, and confusion. These are the more favorable cases. Others, again, remain in a state of total insensibility, almost approaching to coma or asphyxia, with sibilant or stertorous breathing, and without muscular motion, or with a restless throwing about of the body and extremities. This calm is, however, of no very longer duration; it may be half an hour, or two hours, but sooner or later the paroxysms return, to be succeeded by an interval which in its turn gives place to a paroxysm. I have known as many as eighteen paroxysms occur in twenty-four hours.

852. The urine, as I have already mentioned, is in the large majority of women, albuminous. Dr. Lever remarks, "I have carefully examined the urine in every case of puerperal convulsions that has since come under my notice, both in the Lying-in Charity of Guy's Hospital and in private practice, and in every case but one the urine has been found albuminous at the time of convulsions." "I further have investigated the condition of the urine in upwards of fifty women, from whom the secretion has been drawn during labor by the catheter; great care being taken that none of the vaginal discharges were mixed with the fluid; and the result has been, that in no cases have I detected albumen except in those in which there have been convulsions, or in which symptoms have presented themselves which are readily recognised as precursors of puerperal fits;" and this has been confirmed by Simpson, Sabatier, Legroux, Richelot, Blot, Mascarrot, and others.

More recent researches have thrown a good deal of light upon the occurrence of this renal affection. De Villiers and Regnault* observed it as early as the sixth month; Litzmann not till the eighth. The most characteristic symptom is dropsy of the hands, arms, and face; but dropsy does not necessarily co-exist. "The quantity of albumen is usually very conspicuous, and increases as the time of delivery approaches. In proportion to the intensity and duration of the morbid process in the kidneys, are found casts of the uriniferous tubes in greater or less quantity, the epithelium lining them being sometimes normal, sometimes in a state of fatty degeneration. In the milder cases, the tube casts are often found just at delivery, or soon after. Careful examination will probably, in all cases, detect a not inconsiderable diminution of the urine."*

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* Arch. Gén. de Med. 1848. Recherches sur les Hydropisies chez les femmes enceintes.

Dr. Cormack and Dr. Litzmann attribute the albumen to mechanical pressure upon the kidneys by the enlarged uterus, producing congestion of that organ, and they adduce as an argument the greater frequency of albuminuria in primiparæ. Neither regard it as the consequent of granular degeneration; and certainly, the temporary character of the phenomenon is not consistent with structural disease. Dr. Seyfert attributes it to the disturbance of respiration and circulation. According to most observers, the albumen disappears within a short time; often forty-eight hours after delivery.

853. The termination of the attack varies in different patients; some remain in a state of half-stupor and great exhaustion for hours or days, and gradually recover. Other patients become maniacal, and may even remain so for a long time, and ultimately recover. I had a patient who remained in a state of mental derangement for several months before she was restored to health. In a few cases the patient continues comatose, and gradually passes into a state resembling apoplexy, and dies.

It is not always, however, that the recovery is complete. Sometimes the patient lies apopletic, or in a state analogous; or she is deaf, or blind, or incapable of speaking, or both; or the limbs are benumbed. In fine, it seems as if the sensorium had received some permanent injury, the corresponding parts of the body suffering in consequence.† Cases of partial or complete paralysis of motion or sensation are recorded by Lever, Simpson, and others, as a termination of convulsions.‡

854. I have already mentioned that convulsions may attack the patients either *during pregnancy*, at *the time of parturition*, or *after delivery*.

It will be necessary to say a few words upon its occurrence at each of these periods.

855. *Pregnant* women are more especially obnoxious to this disease

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* Association Journal, Jan. 21st, 1853, p. 64.

† Blundell's Obstetricy, p. 638.

‡ See the Chapter on Paralysis in Childbed.

during the latter two months of gestation, though it may occur at an earlier period, and at irregular intervals. The nearer the patient is to her confinement, the greater the risk of an attack, on account of the extreme distension of the uterus, and its increased irritability.

Although the beginning of labor cannot be detected, either by an internal or external examination, at the outset of these attacks, yet during its continuance labor may commence, and run a natural course. In such a case, the fits will be found synchronous with uterine contractions, though not recurring with each.

In many cases, however, the uterus remains perfectly quiescent, and gestation may be carried on for a time longer. In almost all cases the child is still-born, often putrid; but whether its death preceded the convulsions, or resulted from them, is not easily determined. When the former is the case, may we not attribute the convulsions to the dead child acting in some sort as a foreign body? Dr. Ramsbotham observes, "When the result proves thus satisfactory, the convulsions seldom return; but the woman rarely completes her full period of gestation. The process of labor commonly commences within the space of a few days; sometimes within that of twenty-four hours. Its progress is as regular and natural as if no previous derangement had taken place; but the child is too frequently still-born, and occasionally shows marks of approaching putrefaction."*

The labor runs a natural course generally, and in a fair proportion of cases the mother recovers tolerably well, though there are startling exceptions, as in the following instance: "A lady, in the end of her pregnancy, was seized with convulsions; her attendant was sent for, and decided that there were no indications of labor, and that a stay was unnecessary. The midwife left the house, and returning early the following morning, the patient was found dead; the child, too, the birth of which no one seems to have suspected, lay lifeless beneath the clothes."†

When convulsions occur at the commencement of labor, it might naturally be attributed, in some cases at least, to mal-presentation of the child; but this is not the case. Mal-presentation has been observed very rarely in cases of convulsions.

856. *During labor*, the return of the paroxysm takes place at the commencement of a labor pain, although not with every pain. There is a greater expression of suffering from the uterine contraction than from the convulsion. The symptoms I have described appear to be more intense when the attack comes on during labor than during gestation.

The uterine contractions do not appear to be impeded by the fits;

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* Pract. Obs. in Midwifery, p. 641, note.

† Blundell's Obstetricy, p. 641, note.

the labor generally runs a natural course in the usual time, if not terminated by art; neither is it necessarily fatal to the infant, although there is great danger.

It is remarkable, and not easily explicable, that after the convulsions have ceased, and the labor is over, there is a great tendency to abdominal inflammation, adding fearfully to the mother's risk. Denman, I believe, was the first to point out this fact, which Dr. Collins and others have confirmed; and which should be remembered in the treatment.

857. When the patient is attacked by convulsions *after delivery*, they generally occur from two to four hours after the birth of the child, sometimes later. There can be little hesitation in attributing them to some injury received by the brain or nervous system during labor, though we may not be able to specify the particular mischief. It does not, however, depend upon the length or difficulty of the labor; they occur as frequently after natural labor.

The loss of blood at the time of delivery does not necessarily prevent the occurrence of the fit, though it adds to the danger by the debility it occasions.

Dugès considers cases of convulsions after delivery to be more tractable than any others, whilst Dr. Ramsbotham states exactly the contrary. I should say that the cases where the convulsions occur during labor, and continue afterwards, are the least manageable; next to these the attack during labor only; then, those after delivery; and lastly, the most favorable are those which occur during gestation.

After recovery from the consequences of the attack, the patient may enjoy her usual health, and her subsequent pregnancies do not appear to be very liable to similar attacks.

858. *Morbid Anatomy.*—In the majority of cases, a *post-mortem* examination affords but little information. In many instances there is no deviation whatever from the healthy state of the brain.*

Sometimes the vessels of the brain are turgid with blood; and in other cases there is a quantity of serum effused on the surface and base of the brain, or into the ventricles.

The heart is generally flaccid and empty, and the lungs of a pale color. Some fluid is occasionally found in the pleura, or pericardium.

Traces of inflammation have also been discovered in the peritoneum.

859. *Diagnosis.*—1. *From hysteric convulsions.*—In the attack I have just described, there is a total loss of consciousness, great

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* Bouteilleux: Thesis, Paris, 1816. La Chapelle: Traité des Accouch. vol. iii. p. 23. Cruveilheir: Distribution des Prix à la Maternité, Paris, 1838, p. 31. Baudelocque: Thesis, p. 65. Ciniselli: Ann. Univ. di Med. vol. lxix. p. 472.

muscular action, frothing at the mouth, frequent recurrence of paroxysms, and incomplete restoration or total insensibility during the intervals. In hysteric convulsions, on the contrary, the patient scarcely loses consciousness, exhibits only moderate spasmodic action, has no frothing at the mouth, does not suffer from a frequent recurrence of the fits, and recovers shortly after each. The sobbing, sighing, weeping, and screaming of the hysteric convulsion are also peculiar to it.

2. *From apoplectic convulsions.*—In epileptic convulsions, the whole body is thrown into violent spasms, which are repeated, with intervals of quiescence, and often of partial return of sense. The breathing is rather sibilant than stertorous, and the muscles preserve their tone even during the intervals; whereas in apoplectic convulsions, the spasmodic movements occur at the commencement, and are not repeated; sense and sensibility are totally lost, the breathing is stertorous, and the muscles lose all power, so that the arm when raised, and allowed to fall, does so like that of a person recently dead.

860. *Prognosis.*—On the whole, the mortality is considerable, though probably much less so than formerly. Jacob states that in his time scarcely any survived. Dr. Parr, in his Medical Dictionary, that six or seven out of ten die. Dr. Hunter, that the greater proportion were lost. And we have found that about one in four and a half are lost.

861. *Treatment.*—The division of convulsions into sthenic and asthenic is of value as regards the treatment. When the patient is pale, exsanguined, and weak, it is clear that much caution must be used in abstracting blood. Of course it may be advisable, but our main reliance must be upon counter-irritation to the head and neck, cold in moderation, calomel, opium, and, I believe, upon anæsthetics. In the sthenic form, when the head is hot, the face flushed, and the pulse full, firm, and frequent, as soon as possible after the convulsion, the first thing to be done is to take away blood from the arm or temporal artery, largely and in a full stream. If the paroxysms continue, this may be repeated. Denman took forty ounces and Blundell seventy ounces of blood from a patient under these circumstances. We are not to be deterred from a free use of the lancet by the absence of immediate relief—the benefit is rather in the ultimate and early recovery of the patient, than in the immediate arrest of the paroxysms. "The quantity likely to suffice for the relief of a case of only threatened convulsion, might amount to between twenty and thirty ounces; but if the convulsions are supposed to have been long established, or to have taken place very suddenly, the practitioner would have to take away perhaps thirty or forty ounces of blood, or even *fifty*, in cases of great intensity of the symptoms. The rule should be that the pulse must be reduced into a state of mellowness and softness before the arm is allowed to be tied up. In a few extreme cases, in which the author has from

time to time been consulted, he has considered it necessary to order a second bleeding, after the lapse of two or three hours subsequently to the former one. But he has never, that he recollects, recommended for the second bleeding the abstraction of more than fifteen ounces of blood."* Another good effect from venesection is the prevention of the abdominal inflammation, to which we have seen that the patient is exposed subsequently. If there be any objection to repeating the venesection, leeches may be applied; or if the patient be sufficiently quiet, the nape of the neck may be cupped.

A strong purgative (calomel and jalap, for example) should next be administered, as from the free evacuation of the bowels great benefit is generally derived; and it may also excite uterine contractions, and hasten the delivery.

The head may then be shaved, and cold lotion or ice applied. Denman speaks highly of cold effusion. He says, "on a patient in convulsions who had been bled, and for whom many other means had been fruitlessly used, I determined to try the effect of cold water. I sat down by the bed-side, with a large basin before me, and a bunch of feathers. She had a writhing of the body, and other indications of pain, evidently occasioned by the action of the uterus before the convulsions; and when these came on, I dashed the cold water in her face repeatedly, and prevented the convulsions. The effect was astonishing to the bystanders, and indeed to myself. On the return of the indications of pain, I renewed the use of the cold water with equal success; and proceeded in this manner until the patient was delivered, which was without any more convulsions, except once when the water was neglected."†

A warm bath has been recommended, but besides that its value is doubtful, it would in most cases be very difficult to administer it.

After the lapse of some time, the head and nape of the neck may be covered with blistering plaster, as counter-irritation will materially further the restoration of the patient.

When, after copious bleeding and purging, the attack is somewhat subsiding, it has been recommended to give an opiate. Considerable difference of opinion has existed upon this point, owing, I think, to the different parties not specifying with sufficient accuracy the time at which it should be administered, and the cases suitable for it. Under the circumstances I have mentioned, it seems to be the opinion of the higher authorities that it may be of service. Dr. Collins remarks, "Many of our best writers have actually condemned the use of opium in convulsion, stating it to be most injurious—some even destructive. Ample experience has convinced me that it is not only harmless, but *highly beneficial* in those cases where the fits *con-*

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* Davis's Obstetric Medicine, vol. ii. p. 1027.

† Midwifery, p. 435.

tinue after delivery. And I should hope the cases adduced will prove satisfactorily that it is also useful under many other circumstances, when proper steps had been previously taken. Its combination with tartar emetic, and occasionally with calomel, is most advantageous." Calomel, given so as to affect the constitution, has been found beneficial.

Dr. Collins speaks very highly of tartar emetic, in doses sufficient to produce nausea, but not vomiting. "In every severe case of convulsions, after having carried into effect the ordinary mode of treatment, as *bleeding freely*, *acting briskly* on the bowels with calomel and jalap, and at the same time adopting the means usually had recourse to for protecting the patient during a paroxysm, I endeavoured to bring her under the influence of tartar emetic, so as to nauseate effectually, without vomiting. With this view, a tablespoonful of the following mixture was given every half-hour:—

℞ Aquæ Pulegii, ℥viij.
Tartar Emetici, gr. viij.
Tinct. Opii, gtt. xxx.
Syr. Simpl. ℥ij.
M.

"In some cases the quantity of tartar emetic used was only four grains to an eight-ounce mixture; and in others, the quantity of opium was somewhat increased."

It will be necessary to insert a wedge of leather or wood between the teeth, to prevent injury to the tongue, and also to remove everything out of the way, by striking against which the patient might hurt herself.

This treatment applies equally to convulsions occurring before, during, or after labor; except that in the latter case the quantity of blood taken must be modified according to the state of the patient.

862. Very recently it has been proposed to administer anæsthetics, so as to produce insensibility, in hopes, at the same time, of calming the convulsions; and certainly, so far as we can fairly judge from the cases on record, it appears a most valuable and successful remedy. Dr. W. Channing, of Boston, U. S., has used ether in ten cases; six mothers recovered and three children, a larger proportion than when ether was not used.* Mr. Turner, of Mansfield, administered chloroform in a case of convulsion after delivery, with perfect success. When given on the approach of a fit, it arrested it at once. The patient recovered.† Dr. Keith gave it in convulsions occurring during pregnancy. It quieted the fits, and when labor came on, the patient

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* On Etherization in Midwifery, pp. 307, 330.

† Lancet, Jan. 12th, 1850, p. 53.

was placed completely under its influence, and kept so until delivery. She recovered well, and with no recurrence of the attacks.* In a case related by Mr. Morris it was equally beneficial.† In a case which occurred at Gosport, the inhalation was continued for three hours, after the patient had had thirty-three fits, and the success was complete.‡ Dr. Shekleton, the late master of the Dublin Lying-in Hospital, has tried it in nine cases: in five the convulsions were completely arrested, and in four they were lessened in intensity and frequency.§ Dr. Aldhill has published six cases, in two the fits were arrested, and in four mitigated in severity. M. Braun used it in seven cases, and M. Meissner in one, and all recovered.‖ Mr. Bolton had recourse to it after bleeding and opium had failed, and with great success.¶ I have tried it in a case in which convulsions set in before labor, with great benefit.

863. The next important question is, *whether we are to interfere with the progress of gestation or parturition.*

I believe there is no dispute, that until labor sets in naturally, interference would be injurious; so that in convulsions during gestation, we have nothing to do with the uterus, but must confine ourselves to the treatment of the convulsive disease.

If the attack take place at the commencement of labor, some practitioners have been anxious to hasten the operations of nature by manual dilatation; but this has been abandoned, and very properly, as likely to increase the convulsions, without advancing the progress of the delivery.** Belladonna has been applied to the cervix uteri, for the purpose of dilatation, but I should doubt its utility, and dread its poisonous effects.†† The older writers, with some moderns, have proposed incision of the cervix, but the risk would outbalance any benefit to be derived from so "heroic" a remedy.

But supposing the os uteri to be dilated or dilatable, are we then to proceed to deliver by art? This question has been much debated, and opposite opinions have been advocated. Some advise instant interference, and others no interference at all.‡‡ The true plan seems to be to avoid both extremes. We are not necessarily to interfere at this stage of the labor, beyond rupturing the membranes, which sometimes hastens the progress of the labor.

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* Ed. Monthly Journal, Aug. 1850.

† Ibid., May, 1849, p. 767.

‡ Med. Times, March 23rd, 1850, p. 229.

§ Dublin Journal of Med. Aug. 1852, p. 100.

‖ Medical Circular, May 2nd, 1855.

¶ Lancet, Jan. 29th, 1852, p. 108.

** Denman's Introduction to Midwifery, p. 430.

†† Blundell's Obstetricy, p. 950, note.

‡‡ Denman's Introduction, p. 455.

Version, or turning, has been often recommended, but from all the cases I have seen or collected, it would appear a most hazardous measure. Dr. Ramsbotham advises it, and yet the three cases in which he practised it, proved fatal. Five patients out of the seven are generally lost. Dr. Collins is strongly opposed to it. We may therefore conclude that version is not to be attempted.

But when the head has descended into the pelvis, so as to be within reach of the forceps, and there is sufficient space, it will be proper to apply that instrument, inasmuch as delivery, when it can be accomplished without injury, is very desirable. The attempt must be made during an interval between the paroxysms, and should the introduction of the blades bring on a violent fit, it will be necessary to withdraw them, lest they should be forced through the vaginal or uterine parietes, during the struggles of the patient, or what is better, the patient may be placed under chloroform.

Should the head of the child be so fixed in the pelvis as to defy all reasonable efforts with the forceps, it may be necessary to use the perforator; but, before doing this, the judicious practitioner will consider well the amount of benefit likely to be obtained, and the risk certainly incurred—recollecting that the child may be alive, that the labor may, if left to nature, terminate favorably, and that even if delivered by art, the fits may not necessarily cease. If we are satisfied that the child is dead, we should be justified in delivering by the perforator and crotchet at an earlier period of labor, provided that the os uteri were dilated or dilatable, or that the head had passed through it, and that the convulsions were so formidable as to require speedy delivery.

After the convulsions have ceased, Dr. Collins remarks, "Should the patient become maniacal, as is occasionally the result when the fits have been severe, and have continued for any length of time after delivery, all local distress, as pain in the head, or any symptom that would indicate abdominal complication, should be diligently looked after, and treated accordingly; as by so doing, keeping her fully under the influence of tartar emetic, at the same time acting well on the bowels, and excluding light from her room, as also all other external irritants, the best results may be expected. It is a great satisfaction to the friends of the patient in such a situation to be assured that there is little liability to a return of this derangement of mind, as is the case in most other forms of mania."

864. *Prophylactic Treatment.*—When we are consulted by a patient during pregnancy, who presents any of the threatening symptoms before noticed, such as headache, giddiness, occasional blindness or double vision, and especially if these be continued with anasarca of the face and upper extremities, and with albuminuria, there can be no doubt that active measures are required. Brisk purgatives, with venesec-

tion, or cupping the loins, if the patient can bear it, should be adopted, with small doses of tartar emetic; moderate exercise, and a regular diet.

All pressure should be removed, the lungs be allowed full play, and, if we believe, with Dr. Cormack, that the pressure of the gravid uterus upon the kidneys causes the albuminuria, then the patient should avoid the supine position as much as possible.

On the other hand, these symptoms may accompany an impoverished state of the blood, and the patient will require a good diet, with tonics. Cold or counter-irritation to the head may, at the same time, be necessary. Both Frerichs and Litzmann state that they have found benefit from benzoic and acetic acids. If the renal disease have existed for some time, our treatment must be less active: cold and counter-irritation, with gentle purgatives and acids. Diuretics are to be avoided, but counter-irritants to the loins, by means of mustard poultices, will be useful.

When convulsions occur before labor sets in, we are advised by Chailly, Pietra Santa, Sabatier, and Daniel, to bring on premature labor, and M. Bouchacourt, of Lyons, succeeded once in this way. MM. Legroux and Richelot doubt the propriety of this, and I agree with them, inasmuch as labor, when it comes on, is not necessarily accompanied by convulsions, especially if some time have elapsed since the attack.

865. 3. APOPLECTIC CONVULSIONS.—This variety seldom or never occurs, except towards the termination or after the conclusion of labor. Dr. Burns,* indeed, mentions its occurrence at the commencement of labor, and MM. Morithon† and Menard‡ at the sixth month of pregnancy.

Causes.—It is evidently caused by the stress upon the cerebral vessels during the labor pains.

It is very probable that anxiety of mind may predispose to the attack; at least in one case I saw, this appeared to be the case.

866. *Symptoms.*—In many cases the patient suffers from pain and throbbing in the head for some days previously; but in others there are no premonitory symptoms.

Generally speaking, during the labor the patient complains of headache; and during the second stage the face may be observed to be much flushed, and the eyes injected.

Strictly speaking, there is but little convulsion; the body and extremities are agitated or thrown about for a short time, and then the patient lies in a comatose state. There is little or no distortion of the face, and no frothing at the mouth. The muscles become flaccid and powerless; the respiration is stertorous; there is no return of intelligence, and rarely any repetition of the paroxysm, though such cases have been recorded. The pulse is full and slow, and the pupils in some cases dilated, in others contracted, but in all insensible to light.

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* Midwifery, p. 527.

† Trans. Med. vol. v. p. 162.

‡ Ibid. vol. iv. p. 241.

In almost all cases the condition of the patient remains unaltered until death; but there are a few cases, answering, I presume, to the congestive apoplexy of Abercrombie and Lallemand, where our timely aid is successful, and the patient recovers sense and motion; and, if proper care be taken, is speedily well.

I do not know that I can give a better illustration of this disease than by relating the two following cases. For the first I was indebted to my lamented friend, Dr. Aston; it appears to be a simple case of apoplexy from congestion: the second occurred in the practice of a dispensary to which I was attached. I quote them from a report I published some years ago in the Medical Gazette: "Catherine Costello, aged eighteen years and nine months, of low stature and corpulent figure, complained first of severe headache on Wednesday, January 2nd, 1833. The pain was more violent than any of the kind she had ever experienced. Sickness of the stomach set in nearly at the same time, and she continued throwing up green bilious matter during the entire day; the bowels were confined for four days; the face and extremities were much swelled, which commenced two days before, and continued gradually to increase as the headache became more intense. She wanted about seven weeks to complete the usual term of utero-gestation. I (Dr. Aston) was sent for in the evening; she was walking about the room, but suffered most acutely; the face was swelled to such a degree as almost to hide the eyes, and her speech was somewhat thick. The motion of the child had not been felt all day. As she had an objection to bleeding, I omitted it for the present, and directed some opening medicine to relieve the bowels; and having given the requisite directions, I left her; but in a few hours her husband came for me in all haste, requesting my immediate attendance, as she had had a fit, and appeared to be in a dying state. Upon further inquiry, I was told that the pain in the head got much worse, when suddenly the eyes became fixed, the face distorted, convulsive motions ensued, and ended with stertor, which must have been of short continuance, as no such symptoms existed when I visited her a short time afterwards, *although she was unconscious of anything that happened until after venesection*, which I immediately performed to the extent of eighteen or nineteen ounces, from which she experienced almost instantaneous relief. The heat of the skin was much greater than natural; thirst extremely urgent; pulse pretty frequent, but inclined to hardness; after venesection it became quicker; shortly after, slower and softer, until it gradually came down to the natural standard. From this time all the symptoms subsided, and she was delivered January 5th, and recovered well."

"Mary ——, æt. 30, was attended in her first confinement by a pupil of the Wellesley Dispensary, on Monday, November 20th, 1832. The labor was natural, and terminated within the usual period. She complained of severe headache during her labor, and seemed sleepy towards the conclusion. After asking some question of the attendants, she settled to sleep; some irregular motions of the limbs were noticed by those in the room, but nothing further, until her breathing became loud and heavy, when, as they could not rouse her, I was sent for. I found her perfectly insensible; pupils fixed and contracted; breathing stertorous; heat of head but little increased; abdomen distended with flatus; muscles perfectly flaccid: pulse firm, and tolerably full. The usual remedies were tried, but unsuccessfully, and she died during the night. A *post-mortem* examination was permitted, and we found great effusion of blood, filling both ventricles. A quantity of serum also was found at the base of the skull. On further inquiry, I learned that she had been the victim of seduction and desertion, and that she had suffered from depression of spirits and severe headaches for some weeks before her confinement."

867. *Pathology.*—The brain may be found greatly congested, but without any effusion; but this I believe to be rare.

There may be great effusion of serum, which by its pressure will cause symptoms of apoplexy.

More frequently, blood is poured out into the ventricles, into the substance of the brain, or at its base.

Cases of this kind have been noticed by Denman, Targioni, Marchais, Lachapelle, Leloutre, Schedel, Velpeau, &c.

868. *Diagnosis.*—The entire and persistent insensibility, the absence of repeated paroxysms with their accompanying symptoms, will at once enable us to distinguish apoplectic from epileptic or hysteric convulsions.

It is not easy to distinguish that form which arises from congestion from that caused by effusion, the chief difference being in the intensity of the symptoms.

869. *Treatment*—The most active antiphlogistic measures should be instantly put in requisition; a large quantity of blood should be taken from the arm, jugular vein, or temporal artery, and repeated if necessary. This is the more requisite, as it is from the effect of blood-letting that we are mainly to look for distinction, between apoplexy from congestion, and apoplexy from effusion. If no relief whatever be afforded, the case may be regarded as nearly hopeless; but if the patient be at all benefited, the head should then be shaved, and ice applied.

After a short time, a large blister may be applied to the head or neck, and a brisk purgative given.

These remedies will generally afford relief in those cases which are susceptible of it, and they may be modified or repeated as circumstances may require.

Should this variety occur during labor, and the uterine action be suspended, it will be desirable to deliver the patient as speedily as possible, so as to save the child; and for this purpose, if the head be within reach, the long or short forceps should be applied.

CHAPTER XVII.

PARALYSIS OCCURRING DURING GESTATION AND IN CHILDBED.

870. HAVING been much interested by a case of paralysis after delivery, to which I was called in consultation, I was induced to make some inquiry into the occurrence of the disease, not merely after delivery, but during gestation, and to examine the authorities within my reach, in order to collect from them all the information they contain; but I am sorry to say that my search has not been very fruitful in results. Bearing in mind that paralytic affections may occur as a termination of convulsions, as well as independently, I carefully looked over the principal obstetric writers; and in the works of Giffard, Ould, Exton, Smellie, Chapman, Pugh, Burton, Moore, Foster, Perfect, Osborn, Spence, Hamilton, Denman, Burns, Merriman, Blundell, Collins, Davis, Lee, Murphy, and Hardy and M'Clintock, I have found no mention of the disease.

Dr. Campbell has a short section on paralysis of the pelvic extremities, which, he observes, "may be either partial or complete; and in all the cases which I have seen is confined to one of the limbs. It must be owing to the long duration of the head in the pelvis, from disproportion and consequent injury to the pyriformes muscles, or great sacro-sciatic nerves. The partial variety is what we generally meet with, and in either, it is a protracted complaint, without the patient, however, in any instance that I have seen, becoming permanently lame."* Dr. Ryan observes that "some women, after the easiest as well as after instrumental delivery, are attacked with paralysis of the lower extremities, which is generally attended with retention of urine. The disease usually disappears in a few weeks."†

Dr. F. Ramsbotham states that "paralysis of one or both legs, in very various degrees, occasionally happens after labor; more frequently when the process has been tedious and painful; but sometimes, when it has been of ordinary duration, or even of unusual rapidity. It is not attended with cerebral affection, and is dependent on the pressure which the muscles and nerves have sustained during the passage of the child's head through the pelvis. There is pain or numbness both within that cavity and around the hip, and an inability to move the limb with freedom. It generally disappears by degrees within a few days; at other times it continues beyond the period the patient usually remains in bed, and compels her, when she rises from it, to use a stick or a crutch." Again, "hemiplegia, indeed may appear after delivery, as well as at other times, but there will be particular symptoms, independently of the local affection, which are too well known to require mention from me here."*

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* Midwifery, p. 406.

† Manual of Midwifery, p. 661.

Dr. Dewees has given two cases of convulsions, followed by temporary blindness;† but this is the only reference to the subject in his works, or those of Dr. Meigs.

I have not been more fortunate in my search among systematic writers on diseases of women, for neither Leake, Hamilton, Blundell, Hall, nor Ashwell, makes mention of either paraplegia or hemiplegia.

I find as little notice of these affections in French or German obstetric works. I have examined the writings of Saccombe, Boivin, La Chapelle, Bandelocque, Maygrier, Gardien, Velpeau, Moreau, Chailly, and Jacquemier, of Carus, Jöerg, Wigand, and Busch, on midwifery; and of Nauche, Capuron, Jöerg, and Siebold, on diseases of women, without having been able to find an allusion to it. The recent work of M. Scanzoni, is the only one in which it is noticed. He has a chapter on paralysis of the lower extremities, in which, admitting that it may in some cases be owing to pressure, yet as it may not appear until some time after labor, and as a similar affection may attack the upper extremity, he considers that pressure cannot be the sole cause, but that it may be attributed to some more profound derangement.‡ He has given a case which I shall quote hereafter.

This paucity of information in systematic obstetric works, it occurred to me, might be owing, not solely to the rarity of the disease, but partly to the opinion that the disease belonged more properly to the department of general medicine, and that, perhaps, I should find more information in works treating of the practice of physic generally, or of diseases of the nervous system in particular. I have, therefore, consulted such as are within my reach, but with very limited results. The disease, as connected with pregnancy or childbed, is not mentioned by Hasse, Rokitanski, or Abercrombie, but the latter distinguished observer has some observations so apposite to the cases which I shall relate presently, that I shall take the liberty of quoting them. He states, that an attack of paralysis may*—"1. Be merely the prelude to the apoplectic, and may pass into it after a short interval. 2. The attack may, under proper treatment, pass off speedily and entirely, leaving, after a very short time, no trace of its existence. 3. The recovery may be very gradual, the use of the affected limbs being restored after several weeks or months. 4. The palsy may be permanent, &c. &c." And again, he remarks, that "the whole phenomena of palsy do indeed bear evidence that certain cases of it depend upon a cause which is of a temporary nature, and capable of being very speedily and entirely removed. We see hemiplegia take place in the highest degree, and yet very rapidly disappear; but the most singular circumstance connected with certain cases of palsy is, that we occasionally see it continue without any improvement for many weeks or months, and then, from some change which entirely eludes our observation, take a turn for the better, and entirely disappear." Dr. Todd† mentions the fact, that anæsthesia of the face sometimes occurs after parturition, and also that paralysis may occur, and that it is sometimes coincident with phlegmasia dolens. Dr. Cooke, in his work on Nervous Diseases, does not treat of paralysis in connexion with pregnancy or parturition, but he notices a curious fact, which is illustrated by one of the cases I shall detail, namely, that a patient with hemiplegia is sometimes unable to utter the exact word they wish, to express their meaning, either from forgetting it, or from a difficulty in pronouncing it.‡

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* Obstetric Medicine and Surgery, p. 548.

† Midwifery, p. 506.

‡ Lehrbuch der Geburtshülfe, p. 1000.

Dr. Graves, in his admirable observations on the Pathology of Nervous Diseases, when treating of the centric or excentric origin of certain forms of paralysis, remarks: "I shall endeavour to prove, first, that paralysis (from whatever cause) affecting one portion of the circumferential extremities of the nerves, may also affect other portions of their extremities; secondly, that pain originating in one situation may produce a similar sensation in distant parts; and, thirdly, that convulsions, resulting from irritation in any part of the extremities of the nervous system, may occasion a corresponding train of symptoms in other parts of the body."§ Although I think that these observations bear directly upon the affection under consideration, they were not so associated in Dr. Graves' mind, for he makes no allusion to paralysis occurring before, during, or after labor.

In Dr. Watson's Practice of Physic there is a very full and able account of the different varieties of palsy, but no mention of its occurrence in pregnancy or childbed; nor yet in the more recent special treatise of Dr. Copland.

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* Diseases of the Brain, &c. pp. 246, 248.

† Cyclopædia of Practical Medicine, vol. iii. p. 243.

‡ Vol. ii. p. 10.

§ Clinical Medicine, by Neligan, vol. i. p. 501.

I may further observe, that in none of these works is there any notice of the condition of the urine previous to or immediately after the attack. The only author who up to this period seems to have suspected a connexion between serious nervous affections and certain states of this secretion is Dr. Latham, who, after enumerating various diseases attended with or caused by albumen in the urine, says of the brain, "And some of its graver affections will come and go, and admit of a present relief, which is unusual where harm has befallen its own structure: convulsions and apoplexies appear and disappear, and yet are ultimately fatal, the chief concomitant circumstance which attracts our notice being albuminous urine.*

Dr. Romberg, in his valuable work, recently published by the Sydenham Society, has a section upon "paralysis depending upon the affections of the sexual organs,"† which is of such interest that I trust a pretty long quotation will be excused. "The female sex," he observes, "offers peculiar opportunities for the study of paralytic attacks connected with morbid conditions of the sexual system: they arise either from direct pressure of the distended uterus, or ovary, upon the nervous plexuses of the lower extremity, and are then only unilateral, and accompanied by derangement of sensibility, as pain, numbness, or loss of sensation: or they are caused by a reflex influence upon the spinal cord, and then affect both sides of the body. Veterinary surgeons have repeatedly met with the complication of paraplegia and metritis; Gelle‡ quotes eleven cases of acute metritis in cows, which had followed calving; in all, the power of moving the hind legs was diminished, while sensibility continued unimpaired. Sewell§ publishes the sectio cadaveris of a cow attacked with paraplegia following calving; intense inflammation was found in the uterus and vagina. Ithen‖ has communicated a few cases of metritis in mares, which was accompanied by inability to stand, and to raise themselves on their hind legs. Dr. Hunt¶ has observed similar occurrences in women. Lisfranc** details the case of a lady, aged 36, who had gradually been attacked with paraplegia, without any loss of sensibility. All the remedies applied on the assumption of a disease of the spinal cord remained unavailing. Lisfranc made a vaginal examination, and found the fundus uteri so much enlarged as almost to fill the pelvis; after using the iodide of potassium and iodine frictions for three months, and taking the waters at Barège, the tumefaction of the uterus was reduced, and complete recovery was obtained in two years." "Paralysis of the lower extremities often supervenes during confinement and even after easy births, without pain having preceded or being associated with it; and the accoucheurs attribute it to compression of the sciatic plexus and obturator nerve, for which there is no warrant whatever. There would be more justice in assuming that an accumulation of serous fluid had taken place in the spinal canal, resulting from disturbance of the circulation, as we find in tumors of the abdominal cavity; but morbid anatomy does not afford any proofs of the fact. No such condition, however, is necessary, as demonstrated by a case which recently came to my notice, and in which the uterus was atrophied. A woman, aged 41, had, since the cessation of her catamenia six years previously, frequently suffered from twitching of the inferior extremities, and for nine months past, motility had been diminished; there was a frequent tremor and sense of weight in the legs. The cutaneous sense of touch was dull in the feet, especially in the left, in which the disease had commenced with lacerating pains. Retention of urine, alternated with eneuresis, especially at night. The upper extremities continued in the full possession of their vigour. No abnormity was discoverable in the spinal cord. Dr. Schöller, whose accurate method of exploration is well known, found that the vagina was much shortened, and that there was no portio vaginalis, only the transverse fissure of the uterus remained visible at the arch of the vagina, directed from before backward. The os tincæ was very soft, and the neck presented the usual hardness; it was evident that the sexual system had undergone a process of involution, as in an old woman. I ordered the alkaloid of the nux vomica, strychnine, in doses of a quarter of a grain, twice a day, and friction of the legs with the ethereal oil of turpentine; after continuing this treatment for three weeks, a favorable effect was experienced."

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* Diseases of the Heart, vol. ii. p. 299.

† Diseases of the Nervous System, vol. ii. p. 399.

‡ Journal Pratique, &c. 1826.

§ Veterinarian, vol. iv. p. 509.

‖ Nebel und Vix. Zeitschrift fur die Gesam. Thierheilkunde, vol. iii.

¶ Stanley, p. 274.

** Journal de l'Anat. de la Physiol. et de la Pathol. du Système Nerveux, 1843, vol. i. p. 154.

A friend very kindly undertook a tolerably extensive search among the periodicals, but, with two remarkable exceptions, nothing on the subject was found. These two exceptions were, a paper by Dr. Lever, of London, and one by Professor Simpson, of Edinburgh. With both of these gentlemen I have been in communication, and from both I have received additional matter, a favor, the value of which has been doubled by their frank, kind manner of conferring it, and for which I take this opportunity of returning my warmest thanks.

871. Dr. Lever's cases of paralysis form part of an interesting series, illustrative of certain nervous affections of pregnancy; and in support of his conclusion that "pregnancy is occasionally associated with chorea, or convulsive movements; with paralysis of various parts of the body, of the extremities and of the nerves of special sense; and with mania."* The varieties of paralysis he describes are, amaurosis,

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* Guy's Hospital Reports, 1847, vol. v. p. 1.

deafness, hemiplegia, loss of power in both upper extremities, loss of power in the right lower extremity, &c. &c. I shall take the liberty of giving an abstract of these cases bye and by.

872. Dr. Simpson's communication, published in the same year, consists of some observations made at the Edinburgh Obstetrical Society, from which I shall extract so much as relates to the subject before us at present. "1. Albuminuria, when present during the last periods of pregnancy and labor, denotes a great and marked tendency to puerperal convulsion. 2. Albuminuria in the pregnant and puerperal state sometimes gives rise to other and more anomalous derangements of the nervous system, without proceeding to convulsions; and Dr. Simpson had, especially, observed states of local paralysis and neuralgia in the extremities, functional lesions of sight (amaurosis, &c.) and hearing; hemiplegia and paraplegia more or less fully developed. . . . ." "5. Albuminuria and its effects are far more common in first than in later labors, and then constitute a disease which generally disappears entirely after delivery. But Dr. Simpson had seen one case commencing with slight blindness, but no œdema, and ending gradually in hemiplegia, where the palsy remained after delivery, and after the disappearance of the albuminuria. In another, amaurosis came on with delivery, and had been present for six months, when Dr. Simpson first saw her. She had no œdema or other symptom of albuminuria, but in testing the urine, it was highly albuminous. 6. Albuminuria with convulsions, &c. occurring in any labor later than the first, generally results from fixed granular disease of the kidney, and does not disappear after delivery. 7. Perhaps, in puerperal convulsions, &c. produced by albuminuria, the immediate pathological cause of the nervous lesion is some unascertained but poisoned state of the blood. Was there a morbid quantity of urea in the blood? In several specimens of the blood of patients suffering under puerperal convulsions, furnished by Dr. Simpson to Dr. Christison and Dr. Douglas Maclagan, these gentlemen had been unable to detect any traces of urea. Was the poisoning material caseine in morbid quantity or quality? The dependence shown by Gluge and others, of albuminuria upon stearosis of the kidney, makes this connexion worthy perhaps of some inquiry." "9. Sometimes hemiplegia supervened during pregnancy, without albuminuria, but this form did not seem to interfere materially, or very dangerously, either with the pregnancy or labor; the disease running its own course. In one case, Dr. Simpson had seen the patient gradually but imperfectly recover the use of the palsied arm after delivery. In another, no improvement occurred.*

873. Let us now see to what the information we have obtained from these different authorities amounts. Very briefly, we find:—

1. That hemiplegia, paraplegia, or partial paralysis, may occur previous to, during, or some time after labor.

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* Edinburgh Monthly Journal, October, 1847, p. 288.

2. That by some authors, the paralysis, in paraplegia especially, is attributed to pressure upon the muscles or nerves, in prolonged labor; but this is also denied, as the same disease follows easy labor, or occurs after the lapse of some days.

3. Paralysis may terminate convulsions or accompany them.

4. Paralysis may be the consequence of organic disease, or of effusion into or upon the brain or spinal marrow.

5. Paralysis may result from reflex action.

6. The palsy may depend upon temporary causes, and among such causes albuminuria may be included.

7. Hemiplegia may run on into apoplexy, or it may pass off in a few weeks, or sometimes more slowly. Paraplegia may leave a temporary or more permanent lameness: the local palsies (amaurosis, deafness, &c.) generally last but a moderate time.

8. A nervous or hysterical paralysis may occur occasionally in the unimpregnated state, or during pregnancy, but that it seldom continues after delivery.

I shall now proceed to give a short abstract of such cases as I have been able to collect from authorities, or from my professional friends, or which I have seen myself. Among the former, I am indebted to Dewees, Scanzoni, Crosse, Beatty, Lever, and Simpson; and, among the latter, to Drs. Lever, Simpson, M'Clintock, Beatty, Forrest, Ireland, and Duke. I shall first give those in which the paralysis occurred during pregnancy; then those in which it occurred at the time of labor; and lastly, those in which it followed parturition.

874. I.—PARALYSIS OCCURRING DURING PREGNANCY.—Case 1.*—*Hemiplegia, partial.*—Mrs. A., aged 26, has two children; was attacked with "numbness in her right arm, and a diminution of its power. The mouth is drawn slightly to the right side, and there is a feeling of occasional tingling, and sometimes numbness, in the left thigh, leg, and foot. This was when she was about two months pregnant. Under careful treatment these symptoms diminished, but she did not lose them until her confinement. Similar symptoms accompanied the next pregnancies. Suffice it to say, that I have now attended this lady in four pregnancies, and with four children, she having borne six; that the same symptoms make their appearance very soon after pregnancy takes place; that they become modified by treatment, but are never removed until after delivery; that the period of their cessation has seemed to depend upon the nature and amount of blood lost during labor, &c. &c."

Case 2.—*Paralysis of Right Arm and Hand.*—S. M., aged 38, married for nine years, had miscarried on two occasions, and during the eighth month of pregnancy was attacked by a "tingling sensation in the palm of her right hand and fingers, which rapidly ran up the extremity to the shoulder and axilla, when she found herself unable to hold or feel her needle: the fingers were slightly flexed on the hand, the hand on the fore-arm, and the fore-arm on the uterus." Five days after the attack Dr. Lever saw her. "The right extremity was in the condition above described; the sensation of the limb appeared little, if at all, deranged; but she complained of a sensation of heat throughout its whole extent; her countenance was pale; there was no pain or heat in the head; her bowels had been freely opened on the day of my visit; her pulse was small, feeble, and 96."* Under the use of sulphate of zinc, with nutritious diet, &c. she improved, but did not recover the use of her arms until after her confinement.

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* Dr. Lever, Guy's Hospital Reports, vol. v. p. 12.

Case 3—*Paraplegia*—"Is that of Eliza H., who was in Guy's Hospital several times (I believe three) under the care of my late colleague, Dr. Ashwell. Immediately after her sixth labor, which was perfectly natural, she felt a great numbness in her lower extremities, as well as weakness, but from them she gradually recovered. During her seventh pregnancy, about the third month, her lower extremities gradually became paralyzed, and this time she was unable to stand or walk, and was compelled to keep her bed. After her confinement she was carried into the hospital, and placed under Dr. Ashwell's care, when she perfectly recovered. On going out, she became pregnant of her eighth child, and paralysis did not come on until after labor."†

Case 4.—*Amaurosis.*—Mrs. T., aged 31, soon after quickening of her fifth child, "whilst engaged in some plain needle-work, suddenly felt a peculiar sensation in the eye-balls, and found, on opening the lids, that she could merely see the outline of objects, their centre being perfectly dark." "Her eyes were dark; the pupils were large, and contracted (though sluggishly) upon the stimulus of light; the eye-balls seemed to have in a measure lost their mobility, and to be inordinately fixed; the eyelids altogether, or nearly, covered the globes, for if they were not protected, she complained of a sensation of dryness and smarting." This state continued until her confinement; in a week afterwards there was an improvement which increased until after her return from the country: at the end of three or four months she could see as well as ever.‡

Case 5.—*Deafness.*—Mrs. S., aged 23, when about three or four months pregnant of her first child, noticed that her hearing was not so acute as before; and it was evident that, week by week, it was becoming more obtuse. "She was dispirited and pale; her tongue, when protruded, was tremulous, flabby, and indented: her pulse small and feeble: her appetite tolerably good; her bowels regular;

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* Dr. Lever: Guy's Hospital Reports, vol. v. p. 14.

† Ibid. p. 16.

‡ Ibid. p. 17.

her nights restless; and the irritability of her temper had increased." The deafness continued to increase, in spite of treatment, until after her labor, which was natural. "The day after, she said her hearing was better, so that by the time she went to church she could hear as well as ever."*

Case 6.—*Hemiplegia.*—Mrs. P., aged 18½, in the seventh month of her first pregnancy, fainted, in consequence of some family disputes, and when she recovered "it was found that she was hemiplegic on the right side, as far as the upper part of the abdomen; no pinching, tickling, or any other irritation, caused any movement in the right lower extremity. On the following day she swooned again, and this was followed by an apparent loss of motion and sensation in the right upper extremity. Matters continued the same for three days, when the limbs suddenly regained their usual power. Speechlessness now ensued, which also lasted for three days, and was followed by the loss of power in the right lower extremity as far as the knee." The symptoms improved, but continued until she was delivered. In a subsequent pregnancy she suffered from speechlessness for a fortnight, and after delivery she found she had lost all power of the lower extremities, but this she gradually regained.†

875. Case 7, 8.—*Hemiplegia.*—In addition to the preceding cases, which I have condensed from his paper, Dr. Lever, in a letter which I have his permission to publish, writes: "I have since seen two cases of hemiplegia depending upon cerebral disease, in which gestation proceeded to the full time, labor progressed, and the patient recovered. The child of one was hydrocephalic."

Case 9.—*Facial Paralysis, Partial.*—"I know of one woman who had had two deliveries, and is now pregnant. She counts her pregnancy by finding numbness and want of power on the right side of the face, with a sensation of 'pins and needles' in her right hand. She recovers after delivery."

Case 10.—"Another lady has had eight children, and has always suffered in a similar way. She had just aborted. Neither of these patients could nurse their infants."

Case 11.—*Amaurosis.*—"In the course of this year (1853) I was requested to see a lady about thirty years of age, highly sensitive, nearly eight months pregnant, who was suffering from amaurosis in one eye, perfect; in the other the loss of vision was not so complete. She had had two fits, but not having the opportunity of meeting the medical attendant at my first visit, I did not learn their nature; however, by her appearance and her evidence, I was induced to suspect the presence of albumen in the urine. The medical man applied the usual tests, and found that this was the case; and as the vision became more and more impaired, the operation for the induction of premature labor was resorted to. Labor pains commenced twenty-four hours after the rupture of the bag of the waters, and in twelve hours the child was expelled, still-born. Three weeks since, her husband told me that his wife could play a game of cribbage"

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* Dr. Lever: Guy's Hospital Reports, vol. v. p. 18.

† Ibid. p. 20.

Cases 12, 13.—*Deafness.*—"In two instances I have known the sense of hearing, sorely blunted during pregnancy, restored after confinement; but albumen was not to be detected after delivery. When the albumen has been found wanting, the acuteness of hearing has returned." Let me add, that Dr. Lever mentions that in every case of this kind in which he examined the urine, he found it albuminous.

876. My friend, Professor Simpson, has kindly furnished me with the following notes of cases which have come under his observation:—

Case 14.—*Hemiplegia.*—Mrs. ——, the daughter of a distinguished physician, when nearly eight months pregnant, became slightly amaurotic (palsy of the fifth): this led Dr. Simpson to examine the urine, which he found coagulable. Before labor came on, hemiplegia gradually supervened. The patient recovered, to a certain extent, after her confinement; she is now able to walk about, but has not yet the complete use of the affected side. In a subsequent letter he mentions another case of great interest.

Case 15.—*Facial Paralysis.*—"The lady is within a week or two of her third accouchement. Four days ago, after feeling unwell, she felt a stiffness in the right side of her face, preceded by pain in the back of the head. The stiffness soon assumed all the usual symptoms of paralysis of the portio dura. When I saw her to-day, the face was much disfigured, particularly when smiling; she could not close the right eye, &c.; and, in addition, there appeared a want of sensation about the cheek, nose, and lips, as if the sensitive branches of the fifth were also affected. The eyelids, but especially the right, were swollen and œdematous, but there was no œdema of the hands or feet, or elsewhere. The pulse was very slow and weak. She was supersensitive to sounds, light, &c.: but the point that will interest you is this, that on testing the urine, I found it become very opaque and thick, on boiling." "I have seen a number of instances of local paralysis, particularly of the eyes, in connexion with albuminuria, but not until the present case, any example of paralysis of the seventh pair."

Case 16.—*Hemiplegia.*—He adds, "Since writing to you, I have seen a patient who became hemiplegic six years ago, with her first child, and who has only imperfectly recovered the use of the affected side. From the symptoms accompanying the attack, it was probably another instance of this result from puerperal albuminuria."

877. The following cases occurred in the practice of Dr. Crosse of Norwich:—

Case 16.—*Hemiplegia.*—"Mrs. —— was delivered of twins in May, 1844; a feeble, slender woman; had paralysis of the left side of the face before she married, which always remained; also the right became paralyzed after her labor, under a reducing diarrhœa, but this was recovered from. In the course of this year (1846) her paralysis of left side increased; she emaciated greatly; during these unfavorable changes there were sickness and strong indications of pregnancy. In June she had become so feeble as to take to her bed-room, and after some weeks could scarcely get out of her bed to have it adjusted. She passed her water only once in twenty-four hours, and at length had great difficulty in speaking and in swallowing—all signs of increasing paralysis or increasing disease of the brain." "She sunk in powers and bulk as pregnancy advanced; at the end of September could swallow only liquids and was much troubled with the mucus, which she could neither swallow nor expel by the mouth; very threatening paroxysms of suffocation were produced by this. In the beginning of October, she was evidently sinking fast, relieving us from the fear of delivery at full time, which she could not have survived."* She died October 12, but no post-mortem examination was made.

Case 18.—*Hemiplegia.*—"Mrs. P., aged 42, mother of several children, six years ago had a slight paralytic stroke when pregnant, but went on to the full term of utero-gestation and recovered. Complained of numbness of the right leg and arm some days before, and became quite hemiplegic of that side at midnight, September 2, 1827. Bleeding, blistering, and opening medicine, employed. The liquor amnii began to dribble a few hours afterwards, and she was observed to strain as if in labor now and then, though she said she had no pain. In twenty-four hours a child between six and seven months was born dead, and the placenta followed. Although she strained, she did not appear to have the usual severe pain from the action of the uterus, and only called out at the last few pains when the child was passing through the os externum. Sept. 5th. She remains hemiplegic, but in all other respects seems doing well."†

Case 19.—*Hemiplegia.*—Mrs. B., aged 27, was seized with hemiplegia a month before delivery, she recovered considerably before labur came on, on the 17th of May. "On the 9th of October she had slowly recovered almost the entire use of the limbs, but is thin, and feeble in mind as well as body." In 1845 she was again confined without any paralytic symptoms before or after labor.‡

878. I am indebted to my friend, Dr. Beatty, for the two following cases:

Case 20.—*Facial Paralysis.*—"October 1st, 1850. Mrs. ——, first pregnancy. This young lady expected her confinement about the end of this month, and was very much shocked, on going to dress herself this morning, to find her face crooked; she had no notice of the paralysis that seized the muscles of her face, and her first knowledge of it proceeded from seeing herself distorted in the looking-glass. I was sent for, and found the mouth drawn very much to the left side and the muscles to the left side flaccid and powerless; the tongue on being protruded was turned to the right side; she had some headache, and was very much frightened; pulse 98 and small; leeches were applied behind the right ear, and after free purgation she was quickly brought under the action of mercury. Leeches were several times applied in the same situation, followed by blisters, under which treatment the paralysis of the side of the face gradually diminished, and in less than three weeks it had quite disappeared. She was confined on the 21st of the month. Her labor was easy, of eight hours' duration, and the child, a girl, was born alive and healthy. The urine was not examined. This lady has had two children since, and suffered no deviation from the healthy state in her pregnancy."

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* Cases in Midwifery, &c. by J. J. Crosse, M.D., F.R.S., p. 162.

† Ibid. p. 163.

‡ Ibid. p. 164.

Case 21.—*Hemiplegia.*—"August 8, 1844. Mrs. ——, first pregnancy. This lady, very young, very small, of a lively, active temperament, was seized with paralysis of the right side of the body, in the middle of the night, just three weeks before her confinement at the full period. The attack commenced with a fit resembling epilepsy or convulsive hysteria. When I saw her the next day she could not speak intelligibly, and had very little power over the right leg and arm. Her face was flushed. She complained much of headache, and was very irritable. Her pulse was 98, small and weak. Leeches were immediately applied to the temples, and the bowels were well freed as soon as possible, a large quantity of dark fæces being expelled. When this was effected, she was rubbed with mercurial ointment, and leeches were again applied to the temples and behind the ears, followed by blisters to the nape of the neck and behind the ears. She was quickly brought under the influence of mercury, and severe salivation ensued. The power over the limbs soon began to return, and were it not for the severity of the action of mercury on the mouth, she could have spoken. She recovered perfectly in a fortnight, and was able to walk about and use her legs and arms. Her mouth continued very sore until her delivery took place. Her labor was an easy one, lasting only six hours, when a fine healthy girl was born. This lady had no swelling of the limbs nor any other premonitory symptoms of a convulsive attack. The urine was not examined. She has borne three other children since without any unnatural occurrence."

879. Case 22.—*Partial Paralysis of Right Side.*—My friend, Dr. M'Clintock, has favored me with the following case:—"A lady, of healthy constitution, but nervous temperament, was suddenly seized with numbness, coldness, and partial loss of power of the right leg and arm, when in the last month of her fourth pregnancy. She was immediately put to bed, and the limbs well chafed with spirits. I saw her very soon after the attack, and found her in a state of great alarm and nervousness. Neither pain nor vascular fulness of the head was present;

nor had she suffered from any symptom usually regarded as indicative of cerebral congestion. In the course of an hour she lost the unpleasant sensations in the limbs, and completely regained the power of them. The following day her only source of complaint was an unpleasant tingling in the ring and little finger of the right hand, and at times also in the right side of her tongue and lips. In the course of the next three weeks she had occasional returns of these anomalous sensations in the leg, arm, and tongue, but less often in the leg than in the other parts. Once or twice she complained of her forehead and the roof of her mouth being similarly affected. On the 11th of August (1849), she was confined, and had a short and easy labor, and a most favorable convalescence. On the fourth day there was a return of the numbness and coldness, &c. as before, in the right leg, side, and arm. Between this date and the 1st of October, when her child, which she had been nursing, died, seldom more than three or four days passed without a visit from her troublesome complaint. It lasted about an hour, and was generally accompanied by a considerable flow of limpid urine. On more than one occasion I observed that the temperature of the affected limb was lower than that of the other; once, but only once, both legs were affected. Dr. Chas. Johnson saw this lady with me on Sept. 13, and agreed with me in thinking that her symptoms were of a purely nervous kind. Menstruation came on a few weeks after the death of her infant; nevertheless she continued to be tormented with this deranged sensation of the right side of the body. In the middle of December she went by our advice to the country, and returned home again in six weeks, wholly and entirely free from her complaint, after its having persisted for five months under the varying conditions of pregnancy, the puerperal state, lactation, and menstruation.

880. Case 23.—For permission to publish the following case, I am indebted to Dr. Stokes. It is one of remarkable interest, and I can bear personal testimony to the accuracy with which the report has been drawn up by Mr. Burland:—"Catherine Cummins, æt. 30, room-keeper, 18 John's-lane. Admitted into the Meath Hospital, Nov. 5, 1856, in the seventh month of pregnancy. A robust, well-developed woman, of sanguineous temperament, and mother of five children. She has always enjoyed uninterrupted good health; her former pregnancies were not marked by any symptom unusual during such periods, and her children are strong and healthy. She states that, her husband, previously kind and attentive to her, during the summer of 1856, became very intemperate, and, that when intoxicated, he frequently abused her, so that before and during the early months of her present pregnancy, her constant mental anxiety and depression of spirits were so great as even to prevent her taking sufficient nutriment; that, in the early part of August (she being then in her fourth month), in a drunken fit, he struck her with a heavy shoe, on the left arm and side, and otherwise ill-treated her—the marks of which she bore on her admission

to hospital. She did not, however, observe any symptoms of paralysis till Sunday, Nov. 2nd, when, after retiring to bed in apparent good health, she awoke during the night, with a pricking sensation and numbness in the left arm, side, and leg (she describes the sensation as her arm and leg being "asleep"), and complete inability to move either extremity. She continued in this state till Wednesday, when she was conveyed to the hospital, being unable to stand or walk. She then presented the following appearances:—The muscles of the face, tongue and neck, were altogether intact; her intellect clear; deglutition and articulation perfect. There was complete loss of sensation and motion in the left arm from the shoulder; in the left side (as far as the mesian line posteriorly, but not so definitely marked anteriorly —there being sensation in the right half of the left "mamma," whilst the other half was completely insensible)—and in the left leg, slight sensibility, but complete loss of voluntary motion. During the entire period of the paralysis, there was no muscular atrophy, spasm, rigidity or contraction, the temperature was somewhat lower in the diseased side, and the legs were slightly œdematous. There was no evidence of organic disease, and the fœtal heart and "Bruit de soufflet," were heard from time to time. The urine was examined on two occasions, and presented no other abnormal condition than the following:—Color, pale amber, yellow; reaction, acid; sp. gr. 1.011; urea diminished; no appreciable deposit; all other secretions normal. She was ordered stimulating lotions and a succession of small blisters to the back of the neck and along the spine, under which treatment, after a lapse of four weeks, sensation partially returned to her leg, and to the arm between the shoulder and elbow, when she was able also to move the limb, but could not stand or walk. She continued to improve till the latter part of December (eighth month), when she gained sufficient power over the limb as to be able to "hobble," but not to walk without assistance; her arm and side remained in the same state as on her admission. The urine on Thursday, January 15th (third day before parturition), presented the following characters, viz:—Yellow amber color, turbid, copious pink lateritious deposit of lithates; strongly acid; sp. gr. 1.035; no trace of albumen. She continued in the above state till Saturday night, Jan. 17th, without any parturient sensations—except a few flying pains, which she attributed to indigestion—when on Sunday morning (ten days before the time anticipated), at 11 o'clock a. m. she was seized with "true labor pains," and in five minutes was delivered of a small, but vigorous and extremely healthy female child. I removed the "placenta" in fifteen minutes afterwards, without any hemorrhage, in thirty minutes after which, she again experienced the "pricking sensation" return, with a slight degree of warmth in the elbow. Gradually sensation returned to the arm and side, and shortly afterwards, complete power of motion, so that she could raise her arm over her head, and move her leg, as the will dictated."

881. II. Paralysis during and after Delivery.—Case 24.—*Amaurosis.*—Mrs. ——, aged 26, was seized in labor of her first child, September 9, 1811, and was soon after attacked with convulsions. The fits were frequent and violent, and continued less frequently after delivery, which was completed by the forceps; she was bled largely; blistered; cold applied to the head, &c.; but she remained insensible forty-eight hours after delivery, after which she gradually recovered. "She was left completely blind for two weeks; she then began to see imperfectly, but was six weeks before she could distinctly discern objects."* In another case of convulsions, related by the same author, the sight, especially of one eye, remained for some time imperfect.

Case 25.—*Amaurosis.*—"Mrs. C., first pregnancy; under difficulties and depressed spirits; under thirty years of age; labor began with a convulsion; eyesight and sensibility lost; pupils greatly dilated. I was called in consultation; the os uteri was much dilated; delivery effected by forceps. Bleeding and blistering being fully practised, the convulsions ceased; eyesight, quite lost for several days, at length returned, and there was perfect recovery."†

Case 26.—*Hemiplegia.*—I am indebted to Dr. M'Clintock for the following:—"This case occurred shortly before my leaving the hospital in the year 1847. E. D., aged 36, was delivered of a healthy boy, her third child, after an easy labor of about four or five hours' duration. Paralysis of the right arm and hand came on in the course of labor, and was wholly unattended by convulsion or any cerebral affection. She recovered the effects of her accouchement most satisfactorily, and could not be prevailed upon to remain in hospital beyond the eighth day (the usual time for the patients to return home) although she had but partially regained the use of the affected limb. During the seven days she remained under observation the treatment employed was at first warm stimulating fomentations to the arm, and afterwards blistering along the course of the brachial nerves, together with active purgatives. A very marked improvement took place under the use of these means, but the ultimate result of the case I do not know."

Case 27.—*Paraplegia.*‡—"In the month of December 1850, M. J., aged 32, an unmarried servant, was admitted into the Wurzburg Lying-in Hospital. She had previously been twice confined after natural labors, the last time in July 1848. Eight days after this last confinement, she caught cold as she was washing in water up to her knees. Two hours afterwards she was attacked with symptoms of paralysis of the lower part of the left leg, which in the course of some days extended to the left thigh, and after two or three weeks to the right leg below the knee. At this time also the movements of both upper extremities were somewhat difficult, yet, though the patient could neither stand nor walk, she could still employ her hands in knitting, sewing, &c. In the month of May, 1850, conception again took place, accompanied by an increase of the palsy, without any diminution of the sensibility of the affected parts in the course of the disease. On the other hand, the deficiency of nutrition in the muscles of the fore-arm and legs was remarkable." Labor set in January 28, 1851, and after a considerable time she was delivered of a healthy child. She recovered well, and the paralysis seemed to diminish slightly from the fourth to the tenth day. Local bleeding, blistering, electricity, strychnia, and ergot, were tried without material benefit, and she remained, a year and a half later, much in the same state as when she left the hospital.

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* Dewees' Compendious System of Midwifery, p. 505.

† Crosse's Cases in Midwifery, &c. p. 155.

‡ Scanzoni: Lehrbuch der Geburtshülfe, p. 1000.

Case 28.—*Paralysis of Right Leg.*—The following case has been published by Dr. Beatty:*—"Anne Kieran, aged twenty-one, delivered of her first child, November 26, 1836, after a labor of seven hours; infant born alive. Nothing remarkable occurred during labor or afterwards, until she complained on the second day that she could not move her right leg, and that it felt benumbed and dead. On examining the limb, no swelling nor pain could be discovered at any part that could indicate the approach of phlegmasia dolens; on the contrary, the sensibility of the limb appeared considerably lessened. Frictions with warm turpentine were ordered to the limb, but without any effect upon the condition of the part. At the end of a fortnight, finding that no improvement had taken place, a course of blisters along the line of the sciatic nerve was commenced, beginning above and going downwards. This plan, together with attention to her general health, had the effect of gradually restoring the power of the limb. In a month she was able to walk across the ward with the assistance of a stick, but even yet the leg was dragged along with difficulty, and when carried forward, the foot hung loose and vacillating, the toes pointing to the ground. In another month, she had regained considerable power over the muscles, her progression was much more firm and steady, and the sensibility of the limb was almost entirely restored. She continued to improve until the month of February, at which time she was walking about nearly well, and preparing to leave the hospital, when puerperal fever made its appearance in our wards." She was attacked by pericarditis, and died in about a week.

Case 29.—*Paralysis of the Left Leg.*†—In the month of February, of the present year, 1851, a woman, aged 33, applied at the Polyclinique: on the 25th of January she had been delivered of her third child by the forceps, after a heavy labor, which had lasted twelve hours. During parturition she suffered from painful spasms of the left leg, and on the following and subsequent days, after she had left her bed, complained of lassitude, difficulty of walking, and diminished sensibility of the left foot. The examination showed that the sensibility of the left leg and thigh was normal, but that it was deadened on the dorsum and in the sole of the foot, so that the patient could not distinctly feel the hand when passed over it, or the ground when she put down her foot. The diminution of motility was betrayed by a laborious dragging of the leg in walking, and by the difficulty with which she executed all the movements. The veins were varicose, and the uterus had remained prolapsed after delivery. A purgative was ordered, followed by friction with oil of turpentine and the internal exhibition of the spirituous extract of nux vomica, commencing with half a grain and increased to one grain three times a day. The result was so completely satisfactory, that the motility and sensibility were entirely restored, and on March 3rd the patient was discharged cured."

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* Second Report of the New Lying-in Hospital: Dublin Journal, First Series, vol. xii. p. 304.

† Romberg on Diseases of the Nervous System, Sydenham Society's edition, vol. ii. p. 390.

Case 30.—*Hemiplegia.*—For this case I am indebted to Surgeon Forrest. Mrs. H., aged 29, was confined of her second child on Friday, June 10, 1853, after a natural labor of about five hours, the second stage being short. Considerable hemorrhage occurred after delivery, producing fainting, &c. when Mr. Forrest was called in consultation. By means of a compress beneath the binder, and the application of cold, the discharge was controlled, and the patient progressed favorably, with abundance of milk, and the lochia natural, until Tuesday, June 14, when the lochia ceased without any apparent cause, and without uneasiness of any kind until Friday, June 17th, the eighth day after her confinement, when she was seized with paralysis of the right leg and arm, without headache or any other premonitory symptom. The muscles of the face were unaffected, the sight and speech were perfect, the pupils natural, and the intellect intact. On the following morning, June 18, she had a severe attack of convulsions, which affected the entire body, and the paralyzed extremities as well as the others, after which Mr. Forrest found her in a state of stupor. She had eight fits on this day. On Sunday she continued in a state of stupor, from which, however, she could be roused, and on this day also the convulsions recurred, though rarely, after which they ceased altogether. The pulse was quick, the intellect before and after the convulsive attack was clear, the speech perfect, the eyes natural, the sensibility of the paralyzed limbs unaltered, but the motor power entirely lost. After the convulsions she complained of headache, but this gradually ceased, and she recovered by degrees the use of her arm and leg in about two months. No external cause could be discovered for the attack; she had neither anxiety nor shock, was in good health previous to labor, and was neither liable to headache nor hysterical attacks. The hemorrhage after labor precluded blood-letting, so that the treatment consisted chiefly of counter-irritation by mustard cataplasms, turpentine and assafœtida enemata, four-grain doses of camphor every second hour, purgatives, &c. On Saturday, June 18, Mr. Forrest had the benefit of Dr. Montgomery's assistance in consultation. The patient is quite well at the present time."

Case 31.—*Hemiplegia.*—The following case, which also occurred after hemorrhage, is related in a letter from Dr. Ley to Sir Charles Bell:* "Mrs. W. was delivered by a midwife at Kilburn. The labor was easy, but followed by profuse hemorrhage upon the separation of the placenta from the uterus. She revived from the state of exhaustion immediately consequent upon the loss of blood, but at the end of about three or four days became feverish, and complained of severe headache; for a week, however, she had no other assistance than that of the midwife. At the end of that time (about ten days after delivery), the headache continuing, and being now accompanied with some degree of 'numbness on one side,' I was requested to see her. I found her labouring under severe headache, not confined to, but infinitely more violent upon one side than the other, and occupying the region of the temporal and occipital bones, above the mastoid process, and attended with considerable pulsation. Upon one side of the body there was such defective sensibility, without, however, corresponding diminution of power in the muscles of volition, that she could hold her child on the arm of that side so long as her attention was directed to it; but if surrounding objects withdrew her notice from the state of her arm, the flexors gradually relaxed, and the child was in hazard of falling. The breast, too, upon that side, partook of the insensibility, although the secretion of milk was as copious as in the other. She could see the child sucking and swallowing, but she had no consciousness, from feeling, that the child was so occupied: turgescence of that breast produced no suffering, and she was unconscious of what is termed *the draught* on that side, although that sensation was strongly marked in the other breast. Upon the opposite side of the body there was defective power of motion, without, however, any diminution of sensibility. The arm was incapable of supporting the child; the hand was powerless in its gripe; and the leg was moved with difficulty, and with the ordinary rotatory movement of a paralytic patient; but the power of sensation was so far from being impaired that she constantly complained of an uncomfortable sense of heat, a painful tingling, and more than the usual degree of uneasiness from pressure, or other modes of slight mechanical violence. Medicinal agents, including blood-letting, general and local, blisters, purgatives, &c. directed, first by myself, afterwards by Dr. P. M. Latham, to whose care I directed her in the Middlesex Hospital, were of little avail, and she left the hospital scarcely, if at all benefited. At the end of a few months she again proved pregnant. Her delivery at the full time was easy, and unaccompanied with hemorrhage or other formidable occurrence; but at the expiration of about ten days she complained of numbness on both sides. The articulation was indistinct; she became more and more insensible, and sunk completely comatose. Upon examination of the body, no positive disorganization of the brain could be detected. The ventricles, however, contained more than the usual serum; and there were found, more especially opposite to the original seat of pain, thickening and increased vascularity of the membranes, with moderately firm adhesions in some parts; in others an apparently gelatinous, transparent, and colorless deposit interposed between them. Such is the outline of a case which I have been in the habit of quoting in my lectures as an illustration of one of the pathological conditions which I have repeatedly observed as a consequence of great and sudden loss of blood, and as a proof that it is a state of local congestion, allied if not amounting to actual inflammation."

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* Bell on the Nerves, Appendix, No. 85.

Case 32.—*Paralysis of Face and Arm.*—Mrs. S. aged 43, was confined of her thirteenth child (all of whom are living) in June, 1844. Her labor was perfectly natural, neither preceded nor accompanied, nor followed by any unusual symptom, until the seventh or eighth day; in the evening of which day, when quietly talking with her husband, she suddenly commenced exclaiming, "conveniency, conveniency, conveniency." Upon attention being directed to her condition, the mouth was observed to be quite drawn to one side, and complete paralysis of one arm existing. The leg of the same side was not affected. She was not nursing; the lochia were quite natural, and the bowels free. When Dr. Duke first saw her, the only additional symptoms he noticed were, a very quick pulse, and some difficulty of articulation. Cold to the head, aperients, and slight mercurialization, were the remedies employed, and they were successful, for she recovered the use of the arm and the power of speech in a fortnight. The quick pulse continued for some months, together with a certain amount of indistinctness of vision, for which she came to town, and I saw her, in consultation with Dr. Jacob and Dr. Duke. We advised counter-irritation, and a tonic treatment, under which she recovered perfectly.

Case 33.—*Hemiplegia.*—Mrs. K. aged about 38 years, was delivered of her fifth child, September 15, after a very easy labor. She was a woman of a very fragrile constitution, and can hardly be said to have ever recovered from the inanition caused by incessant vomiting in a former pregnancy. She had not suffered, however, from headache or giddiness, and her stomach and bowels were in pretty good order during this pregnancy: neither had she any œdema or other local complaint. On September 16 and 17, and up to noon of September 18, she continued quite well. The lochia were natural, and there was a sufficient secretion of milk. At noon, September

18, I was sent for, as they thought that she did not seem well, and I found her hemiphlegie on the left side. She was not, and the nurse believed that she had not been insensible, and she could speak pretty well, although her mouth was drawn to one side. The motor power of the arm and leg entirely lost, but sensibility not impaired; pulse 120. A few leeches were applied to the temples, and the head was shaved and blistered: the bowels were too irritable to bear mercury. By these means, and a repetition of the blister, and afterwards the insertion of a seton in the arm, she seemed much relieved. She remained perfectly intelligent, spoke well, gradually acquired the power of moving the leg, and, in a less degree, the arm; her face had recovered its natural expression, and ceased to be drawn to one side; the appetite was good, and the bowels regular; the only symptom which made me uneasy was the quick pulse, which never fell below 100. October 2nd. She felt quite well this morning; as the bowels had been confined, she took a pill last night, and when it acted, she got up to the night-chair: whilst sitting there she became very faint, and never afterwards rallied. She died at 8 P. M. of the same day, without any increase of paralysis, without coma or stertor; in short, without any new symptom. No post-mortem examination could be obtained.

Case 34.—*Facial Paralysis.*—Dr. Ireland has furnished me with the following record of three cases in one family. Mrs. O., aged 34, was confined of her fifth child, November 28, 1853, and at the end of Decemher was attacked by paralysis of the right side of the face, indistinct vision, ptosis of the right eyelid, &c. Under the influence of leeching, blistering, and mercury, she recovered. Her mother had a similar attack after her confinement, which proved fatal; and her sister had suffered from paraplegia for years, which always increased after her confinements until her death.

Case 35.—*Hemiplegia.*—Mrs. A., aged 26, was confined for the fourth time on Saturday, November 12, 1853, after a labor of two or three hours, the second stage being under one hour. She had enjoyed excellent health during pregnancy; had no headache or derangement of the stomach or bowels, no œdema; nor was she subject to nervous or hysterical attacks. She was neither plethoric nor anemic. After her confinement she recovered, without a single drawback up to the seventh day, November 18th, on which day, at 9 A. M. after speaking to the nurse quite composedly, but without making any complaint, she became insensible, with some twitchings of the face, but without any other convulsive movements. The insensibility lasted but a few minutes, but when she recovered she was found hemiplegic on the right side, with some difficulty of speaking. These symptoms gradually diminished, however, and at 3 P. M. when Dr. Duke requested me to see her, she could move both leg and arm, and grasp my hand firmly, and speak quite intelligibly. She was quite intelligent, but there were some words which she either could not pronounce or could not remember, although she recognised them when mentioned, and assented, nor could she put out her tongue freely. She said that she had no pain in the head or anywhere else; the eyes were clear and bright, the pupils well dilated, and amenable to light, which, however, caused her no annoyance. The pulse was 140, small, thready, and fluttering. There was a slight degree of tenderness in the right iliac region, which disappeared soon after; the lochia were abundant, natural in appearance, and free from unusual odour; and she had plenty of milk. After very minute inquiry, neither Dr. Duke nor I could detect any cause for the attack. Dr. Duke had applied six leeches to the forehead; had given moderate doses of blue pill and opium, which were continued; and had applied sinapisms to the legs, and a blister to the nape of the neck. She continued pretty much in the same state during the day, but in the evening she had another attack of paralysis, accompanied by very slight twitchings of the arm, after which the loss of power was much more complete, although she retained perfect sensibility throughout.

November 19, 10 A. M. She slept at intervals during the night; pulse 140; small and weak. She can still move the leg a little, but the arm scarcely at all; her speech is thicker, and the difficulty of getting out certain words increased; but she shows that she understands everything that is said. The bowels have been moved, and the bladder emptied; but, from the difficulty of moving, she passes all under her, though not unconsciously. The same remedies were continued, the head shaved and blistered, and chicken broth allowed.

November 20, 10 A. M. In much the same state as yesterday, except that her pulse has increased in strength and volume, and is only 120. She has no pain at all, is quite intelligent; the expression of her face calm and easy; she cannot move the arm, but it is quite sensitive; the leg she moves a little. The bowels were moved, and the urine passed. We had this day the advantage of Dr. Stokes' assistance, and as he concurred in our plan of treatment, the pills of mercury and opium were continued, another blister applied, and a mixture of ammonia, in infusion of orange peel, ordered.

November 21, 10 A. M. Dr. Montgomery visited her with us this day; we found the paralytic affection in the same state as yesterday, but she seemed not quite so well, in consequence of having passed a sleepless night, and from the bowels having been acted on too freely by the mercury. Pulse 120, weak, but fuller and more steady than they were two days ago. Neither Dr. Stokes nor Dr. Montgomery was more successful than we had been in detecting the exciting or the pathological cause of the attack. The pills were ordered to be omitted and a chalk mixture, with a few drops of laudanum, substituted. Another blister was applied to the head.

November 22, 10 A. M. Our patient seemed better this morning, more lively and intelligent; she can move the leg more, but the arm and hand are quite powerless; the bowels are more quiet, and she takes a little food well. Partly from her inability to use the bed-pan, and partly from her passing both urine and fæces together when she did use it, we had no opportunity of examining the former until to-day. The nurse had always told us that it appeared natural, but this day we procured a quantity, which I brought away for analysis. Unfortunately, the cork came out of the bottle, and all was spilled except about half an ounce. This, though insufficient for an accurate quantitative analysis, was enough to show the presence of a large proportion of albumen, with epithelial scales, pus corpuscles, and the urates of ammonia and soda.

Further visits on my part were unnecessary, but Dr. Duke was kind enough to furnish me with specimens of the urine passed in the nights of November 23rd, 25th, 26th; and my intelligent young friend, Mr. Charles Leet, has given me the following careful analysis of each:—

No. 1.—November 23. Urine, pale-yellow in color, faint, peculiar odour, feebly acid reaction. Specific gravity, 1028·500.

Water,		934·850
Solid constituents		65·150
Urea	14·591	
Uric acid	1·250	
Fixed salts	11·166	
Albumen	19·225	
Ammonia, salts, and extractive matter	18·918	
Amount in 1000 parts of urine	65·150	

No. 2.—November 24. Physical characters the same as the last, but with a much smaller sediment. Specific gravity, 1024·250.

Water		943·087
Solid constituents		56·913
Urea	18·340	
Uric acid	1·200	
Fixed salts	9·245	
Albumen	10·928	
Ammonia, salts, and extractive matter	17·200	
Amount in 1000 parts of urine	56·913	

No 3.—November 26.—This specimen was of a deeper yellow color, and had a strong reaction. Specific gravity, 1014·500.

Water		969·658
Solid constituents		30·342
Urea	9·250	
Uric acid	1·909	
Fixed salts	6·103	
Albumen	3·833	
Ammonia, salts, and extractive matter	9·250	
Amount in 1000 parts of urine	30·342	

The following Table will afford a comparative view of each specimen with the others and with the average standard in health. As the quantity passed in twenty-four hours could not be ascertained, the normal quantity, 30 oz., has been assumed:—

	Normal Average.	Specimen No. 1.	Specimen No. 2.	Specimen No. 3.
Amount of urine in twenty-four hours	30 oz.	30 oz.	30 oz.	30 oz.
Specific gravity	1019	1028	1024	1014
Solids	570	840	720	420
Urea	218	188	228	121
Albumen	...	155	134	39

Thus we see that the solid matter in No. 1 and No. 2 is far above the average of health; that the quantity of urea is nearly as much below it, except in No. 2, where it is in excess; and that there is a large proportion of albumen, although diminishing with each specimen. It may fairly be presumed, I think, that the disproportion of these constituents was even more remarkable at an earlier period of the disease, and for this reason I cannot avoid expressing my regret that I did not bestow more care upon it.

I have said that I did not see the patient after November 22nd, but Dr. Duke informs me that she continued to improve slowly up to November 25th, after which, for a few days, she seemed not so well: her intelligence was less, and she seldom spoke, but answered by a nod or a shake of the head; she retained the power of moving the leg, but not the arm. Nov. 26th. There was barely a trace of albumen in the urine. Nov. 30th. Dr. Duke informed me that our patient is again improving slowly. Dec. 12th. Up to this day the improvement had continued, slowly indeed, but quite marked. Her intelligence was restored, her bodily strength increased, her appetite better; in everything, save the impotence of the arm and leg, she was going on most favorably. During the morning she seemed very comfortable, and was talking cheerfully with her sister. At one o'clock she raised herself to a sitting posture in the bed, and took some gruel, feeding herself with her left hand. As she finished, some remark of her sister's excited a fit of hearty laughter, after which she suddenly exclaimed, "Oh dear! Oh dear!" fell back insensible, and expired almost immediately.

Post-mortem Examination, Dec. 14, 2 P. M., forty-eight hours after death, by Dr. Duke and myself.—There were the usual marks of the gravitation of the blood, but no sign whatever of any putrefactive change; the body was in good condition, and a layer of fat, an inch thick, was found on cutting through the abdominal integuments. The head was first examined: there was no turgescence of the scalp, nor, when the skull was removed, was there anything abnormal detected about the dura mater. On removing this covering we found the superficial vessels moderately congested, except at one part of the anterior lobe of the right hemisphere, which was quite pale and bloodless, with a slight effusion of serum beneath the arachnoid. But the most memorable fact noticed at this stage of our examination was, that every blood-vessel contained bubbles of air, alternating with globules of blood, giving to each vessel a beaded appearance, and this extended to very minute vessels, and to those in the division between the hemispheres. We traced the blood-vessels as minutely as we could with the naked eye, but could discover neither obstruction nor obliteration. The brain was then carefully removed; the upper portion of the spinal marrow and the nerves appeared quite healthy; there was no morbid appearance about the base of the brain; the pons varolii and the parts adjacent exhibited neither congestion externally, nor bloody points when cut into, nor any change in the firmness or appearance of their structure; the right hemisphere was healthy throughout, of its usual firmness and appearance, and, when divided, free from vascular points. In the anterior lobe of the left hemisphere, just about the anterior termination of the ventricle, we found the white cerebral substance, and, to a limited extent, the gray matter in the neighbourhood, reduced to a pulpy condition, about the density of gruel; the texture was completely destroyed for about an inch and a half in length by half an inch in breadth; the color was very little changed, was certainly not redder than usual; posterior to the diseased part the tissue seemed quite natural; there was no hardness nor vascularity; nothing, in short, to mark the transition from diseased to healthy structure. Again, in the posterior lobe, there was a similar, but smaller, spot of softening, without surrounding vascularity or hardness. We remarked, indeed, that the bloody points generally seen upon cutting through the substance of the brain were less numerous than usual. Dr. Lyons examined a portion of the softened part, and he found nothing but exudation corpuscles, with the debris of cerebral fibres; neither purulent nor serous infiltration; no other morbid appearance was discovered in the brain or cerebellum, and there was not above an ounce of serum escaped.

The lungs were free from adhesions, and perfectly healthy.

The heart was of the usual size, its walls of the ordinary thickness, and its cavities normal and empty; the auriculo-ventricular and aortic valves were complete, perfect, free from vegetations, and of the usual thinness.

On opening the abdomen we found no trace of peritonitis; the stomach, the greater portion of the small, and all the large, intestines, were perfectly healthy; in one part of the small intestines we found the coats stained of a reddish-brown color, and the mucous membrane quite softened and pulpy.

The same reddish-brown color extended to the contents of the pelvis; we found the uterus nearly reduced to its natural size (five weeks after delivery); its walls were of their natural thickness and apparently healthy; the cervix was dark-colored, and had still a bruised appearance; the cavity contained a thick, gelatinous, reddish-brown fluid, of which some had escaped through the vagina on to the bed; it had no putrid odour, but resembled not quite healthy menstrual fluid; the ovaries were small and healthy, but the broad ligaments and Fallopian tubes retained an unusually vascular appearance, and in the folds of the ligament was a cyst as large as a grape.

The kidneys were dense, and one much larger than the other; when cut into they exhibited great congestion, and from the divided tubes purulent matter escaped.

The other viscera were perfectly healthy.

881. I shall now give a summary of the foregoing cases, and make a few remarks upon the more important points connected with them. With regard to the numerical value of the cases, I should wish it to be understood that I consider the cases far too few to enable us to draw any very decided conclusions, although, as far as they go, the results are worth stating.

Of the 35 cases, in 23 the attack occurred during pregnancy; in 12, either during or after labor.

In 24 cases where it is mentioned, I find that with 10 it was their first child; with 1, the second; with 4, the third; with 2, the fourth; with 3, the fifth; with 2, the sixth; with 1, the thirteenth; and 1 had several children, but the number is not specified.

Of the 35 cases, there were 18 of complete hemiplegia, and 1 partial; 4 of paraplegia, in 2 of which only one leg was affected; 6 of facial paralysis; 5 of amaurosis; and 3 of deafness; but in some of these latter local palsies were combined with the cases of hemiplegia. Of 15 cases of hemiplegia, in which the side affected is mentioned, I find that 11 were of the right, and 4 of the left side.

Of the 35 cases, 4 died.

It may be well, however, to consider these cases somewhat more closely, and for the purpose they may be divided into two classes, those which occurred during pregnancy, and those which were attacked during or after labor.

882. Of the 23 cases in which paralysis occurred during pregnancy, 13 were examples of hemiplegia; 1 of paraplegia, which had occurred previously; 4 of facial paralysis; 2 of amaurosis; and 3 of deafness. There is no regularity as to the period of gestation at which the seizure took place, for of 14 cases in which this is mentioned, in 1 it occurred in the second month; in 1 in the third or fourth; in 1 in the fifth; in 1 in the sixth or seventh; in 4 in the seventh; in 2 in the eighth; and in 4 in the ninth month; from which it would seem, upon

the whole, that it is in the latter months that pregnant women are most liable to the attack. Of 20 cases, 12 appear to have been cured before or by delivery, and in 8 the disease continued for a longer or shorter time afterwards. Of the 21 cases, only 1 died, and in this case it is evident that death was rather owing to disease of the brain, of longer standing than the pregnancy, than to the paralysis which increased during the process; so that I do not think we can reckon it as impairing the comparatively innocuous character of these attacks during gestation. In 3 cases only was the paralysis proceeded by convulsions. In most of the cases it does not appear that there were any premonitory symptoms, little or no headache, or any other circumstance calculated to excite apprehension until the paralysis supervened. The characteristics of the palsy resembled very closely those of similar attacks unconnected with pregnancy: the motor power was enfeebled or altogether lost; in some the sensibility was increased, diminished, or modified; but in others, I infer from the silence of the reporter, that it was little, if at all, changed from its natural condition. The intellect seems to have preserved its integrity in all the cases. A peculiarity of great interest in many of these cases, and to which I shall revert bye and by, is the presence of albumen in the urine, whenever that secretion was carefully examined.

883. The second class, consisting of 12 cases, is characterised by the attack occurring during or after labor. It is remarkable that in 3 cases only (Cases 24, 25, 26) did the paralysis take place during labor, and of these 2 were cases of convulsions; in all the others it not merely succeeded labor, but in most cases after an interval sometimes considerable: for example, in Case 24, it took place on the first day after delivery; in Case 28, two days afterwards; in Case 33, three days; in Case 35, seven days; in Case 27, 30, 32, eight days; in Case 31, ten days; and in Case 34, a month afterwards. Of these 12 cases, 5 were cases of complete hemiplegia; in 1 only the arm was affected; 1 was a case of complete paraplegia; in 1 the right, and in one the left leg only was paralyzed; 2 were examples of amaurosis; 1 of facial paralysis; and in 3 only of the cases of hemiplegia the face participated in the attack. In Dr. Ley's very remarkable case, the paralysis of the motor power of one side was accompanied by loss of sensibility on the other. In some of the cases the sensibility was diminished, in others unaltered, but in none increased. The phenomena of the disease were not peculiar: in the majority of the cases the attack occurred generally without warning, and without any obvious cause. In 2 cases, convulsions terminated in amaurosis, but in Mr. Forrest's case the paralysis preceded the convulsions, and during the latter, the paralyzed limbs shared in the convulsive movements. The duration of the disease varied a good deal, the paralysis gradually subsiding in most cases: in Case 25, after several days; in Case 24, in six weeks; Case 32 recovered the use of the arm in a fortnight, but vision remained imperfect for some months; in Case 35,

in a month; in Cases 29, 30, in two months; Case 28, recovered the power of walking in two months, but was then attacked by another disease which proved fatal; Case 27 left the hospital without improvement. In 3 cases death occurred: in Case 33, on the fourteenth day, and in Case 35, on the twenty-fourth day after the paralytic seizure. Dr. Ley does not mention on what day his patient died.

884. I have already alluded to the fact that in most of the cases the attack occurred without warning, and without apparent *cause*. Some cause there must be, of course, but it is much easier, in most cases, to say what it is not than what it is. For example, in none of these examples except one, did it appear to depend upon any external influence,—upon cold, exposure, violence, &c.,—or upon mental distress; in few, if any, was there evidence of previous cerebral congestion, or disease of any other organ. It has been suggested that the palsy may be merely the termination of convulsions, and certainly some of these cases would seem to support this view; but if this were generally true, we should find convulsions more frequently preceding the paralysis, and, also, we should meet with more cases of convulsions terminating in paralysis. Now, in all the cases I have quoted, a large majority exhibited no convulsive movements at all, and, on the other hand, of all the cases of convulsions related by Drs. Collins, and M'Clintock and Hardy, there is not a single instance of such a termination; we must therefore refer both convulsions and paralysis to some common or different cause. I have no doubt, as Dr. Romberg has observed, that in a number of cases, especially those which occur during gestation, the palsy is due to a reflex action from some organ or structure in a morbid condition, and in which the nervous system seems to be merely the channel of transmission, offering no central disorganization. In such cases the exciting cause may possibly be some injury or morbid condition of the generative organs, or perhaps merely a transient excitement, such as that of pregnancy. It is possible, also, that some of the instances occurring during gestation ought rather to be classed under the head of hysterical paralysis, as described by Drs. Laycock and Romberg, but it is not always easy to make the distinction.

885. Obstruction of the arteries has been recently shown by Professor Simpson,* to be an occasional occurrence in childbed, either from arteritis, a coagulum, or a detached vegetation: and a degree of paralysis, may be the result; but inasmuch as the death of the limb, and ultimately of the patient, is the direct consequence of such an occurrence, the history of the cases I have quoted removes from them the suspicion of being thus caused.

886. It may naturally be supposed that the stress and exertions during labor which give rise to such great congestion of the face and head, by

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* Edinburgh Monthly Journal, February, 1854.

also occasioning congestion of the brain, might be considered one of the principal causes, but such a supposition is not borne out by facts, for, excluding the cases of convulsions, in only one case did the paralysis occur at the time of labor; in all the others it either supervened before labor, or subsequently, at a time when all such direct action must have ceased, and in some, after such an interval that we cannot suppose it even a remote effect of the parturient agony. On the other hand, when we remember the number of severe labors in which no such attack occurs, or compare its frequency with that of convulsions during labor, we can scarcely attribute much influence to this cause. Again, as we have seen, paraplegia has been attributed to severe and prolonged labor, and to the consequent mechanical pressure upon the nerves and muscles of the pelvis, and at first sight this seems an adequate and feasible explanation, and of which no one could deny the possibility; yet so far as our cases are concerned it can hardly have been so, for in all but one the labor was natural, easy, and not prolonged: in the exceptional case the patient had been delivered by the forceps; moreover, the period at which it occurred was too distant to justify our attributing it to this cause in the other cases. On the other hand, if we recollect the number of severe, prolonged, and instrumental deliveries which take place, without any such result, no example being recorded by Drs. Collins, M'Clintock and Hardy, or with the exceptions I have quoted, in any of the reports of the British and foreign hospitals, so far as I am acquainted with them, I think we must also reject this peculiarity of labor as a necessary or frequent cause.

887. In two cases the attacks seem to have been connected with an anemic condition, consequent upon hemorrhage, either from the direct effect of a deficiency of the circulating fluid, or indirectly from the increased susceptibility of the nervous system, under these circumstances, to ordinary exciting causes. In another case paraplegia appeared to result from cold; but, in the majority of cases, as I have already observed, there was neither plethora nor anemia; neither exposure, want, injury, advanced age, mental distress, nor sudden shock; in short, there was no apparent cause.

888. Unfortunately for the cause of science, there are very few post-mortem examinations on record, from which we might decide with some degree of certainty upon the nature of the affection. In all the slighter and more partial cases, life is preserved, and when death occurs in the more severe instances, permission to examine the body cannot always be obtained. Of the four fatal cases I have here detailed, two only were examined: in these, and I doubt not, in the other two also, disease of the brain or its membranes existed. In Dr. Ley's case, he states that, "no positive disorganization of the brain could be detected. The ventricles, however, contained more than the usual serum; and there was found, more especially opposite to the original seat of pain, thickening and increased vascularity of the mem-

branes, with moderately firm adhesions in some parts; in others an apparently gelatinous, transparent, and colorless deposit, interposed between them." In short, there appears to have been an attack of partial meningitis, and the contrast beween the peculiar train of symptoms to which it gave rise, and the absence of all symptoms, except the palsy, in Dr. Duke's case, is very interesting, when we remember the remarkable disorganization we discovered in the latter case. Now in these cases we may fairly assume that the palsy and death itself were the result of the disease of the brain and its membranes, but to what are we to attribute the slighter and more numerous cases? Do they not appear to belong to the class described by Dr. Abercrombie, as "depending upon a cause which is of a temporary nature, and capable of being speedily and entirely removed."

889. What is this temporary cause, producing so serious a disturbance, and yet scarcely, if at all endangering life? May it be the one to which Dr. Latham refers, as observed "in those convulsions and apoplexies which appear and disappear, the chief circumstance which attracts our attention being albuminous urine"? At any rate it deserves our careful attention. Of the fact of the occurrence of albuminuria with certain certain affections of the nervous system during pregnancy and childbed, there can be no doubt whatever. Both Drs. Lever and Simpson have detected it in cases of convulsions during pregnancy and labor: the former observes:—"I have carefully examined the urine in every case of puerperal convulsions that has since come under my notice, both in the Lying-in Charity of Guy's Hospital, and in private practice, and in every case but one, the urine has been found to be albuminous at the time of the convulsions." "I have further investigated the condition of the urine in upwards of fifty women, from whom the secretion has been drawn during labor by the catheter, care being taken that none of the vaginal discharges were mixed with this fluid; and the result has been that in no cases have I detected albumen, except in those in which there have been convulsions, or in which symptoms have presented themselves, which are readily recognised as precursors of puerperal fits." Dr. Simpson's observations about the same time, and those of more recent observers, Sabatier, Legroux, Richelot, and others, have confirmed the conclusions of Dr. Lever as to the presence of albumen in the urine in cases of puerperal convulsions, so that no doubt now exists as to the fact, although we occasionally meet cases of convulsions without albuminous urine, and of albuminuria without convulsions.* Now, as paralysis in

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* It may be of interest to append Dr. Seyfert's conclusions on this subject:—"1. Albuminuria is not an essential accompaniment of normal, healthy pregnancy. 2. The theory, ascribing albuminuria to the pressure of the enlarged uterus on the renal vessels, is inadmissible. 3. When anasarca, from Bright's disease, occurs during pregnancy, the

some cases occurs in connexion with convulsions, if not as a consequence of them, we might, not unnaturally, expect albumen in the urine of such patients, and accordingly, in a patient of Dr. Lever's, and in others, we find that it has been detected.

But we may go a step further, and state that in cases where no convulsions have preceded the paralysis, albuminuria has been equally observed. Dr. Lever says of his cases, that in none in which he examined the urine did he ever fail to find albumen, and the great experience of Professor Simpson is in close accordance with this, as may be seen by the quotations I have given, and by the cases with which he has favored me. This was observed also in Dr. Duke's case, where the paralysis succeeded the delivery; and in which I think there is ground for believing that the albumen had diminished at the time the urine was first examined. In all probability it would have been detected in many others, had an investigation been made.

Thus we find that albuminuria may be a marked symptom in puerperal convulsions, whether terminating in paralysis or not: and in the palsy of pregnant and puerperal women, whether partial or complete, whether local or general: and if the observations are yet too few to draw any very positive conclusions, it is, I believe, because our attention has not been drawn to the subject. And when, in addition, we find, as Dr. Lever states, that as the albumen diminishes, the paralysis subsides, we can hardly doubt that there is some important connexion between them.

What then is the precise pathological significance of albuminuria? We may assume as established, that although it occurs in Bright's disease, *it alone is no proof of the presence of that disease;* but in the present state of our knowledge it is very difficult, perhaps impossible, to come to any very decided conclusion upon the matter. It is conceivable that an unusual, morbid, or noxious ingredient in the urine may be produced in either of three ways:—1. By simple elimination from the blood, in which it was present; 2. As the result of diseased action of the kidneys, excited either by some noxious principle in the blood, or by a morbid condition of these organs; or 3. As a new com-

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patients are seldom attacked by eclampsia. 4. The albuminuria, in cases of eclampsia, is occasioned by the interruption of the functions of the respiration and circulation by the attack. 5. In such cases the albuminuria terminates with the attack. 6. Albuminuria is not present in all cases of eclampsia. 7. Albumen is found in large quantities in the urine of epileptics, *immediately after an attack;* but not invariably after every seizure, or in every case of the disease. 8. Provided there be no Bright's disease, this albuminuria among epileptics ceases soon after the convulsions, and only returns after the next attack."—*Edinburgh Monthly Journal*, Feb. 1854, p. 168.

pound, the result of chemico-pathological action, which we may or may not be able to explain.

Now, albumen in the urine cannot be placed under the latter category, as it is not a new principle, but one already existing in the blood. Nor does it come under the first, for although it is possible that it might be eliminated from the blood in which it is present, it cannot be as a noxious element, nor would this simple elimination account for the condition of the kidneys or for the concomitant symptoms. So that it would appear this secretion of albumen must be owing to some disordered action of the kidneys, excited by some morbid element, in kind or degree, which they are endeavouring to separate from the blood. This seems at least to be the opinion of a high authority, Dr. George Johnson, of London, who, in describing acute desquamative nephritis, in which albumen is so largely secreted, observes, "that all the changes of structure commence in the secreting cells of the gland, and are the results of an effort made by the cells to eliminate from the blood some abnormal products, some materials which do not naturally enter into the composition of the renal secretion."* This view is further confirmed by a post-mortem examination into the state of the kidneys themselves in albuminuria. Dr. Handfield Jones, in a recent paper, has described three varieties: "The first is the condition of engorgement, such as is seen in those who die in the early stages of acute anasarca, or in that of dropsy succeeding scarlatina. The organ is enlarged, dripping with blood in every part; its tissue not destroyed, but many of the tubes are seen, under the microscope, to contain coagula of the exuded fibrine, entangling blood globules, and more or less of epithelium." "The second form of diseased renal structure is that of the large, heavy, often mottled and pale kidney. In this there is no hyperemia, but rather the reverse state usually exists. The cut surface has not the appearance of healthy structure, and gives one the idea of some matter having been implanted among the natural constituents, so as to obscure them and to produce a confused aspect. The tubes are found impacted with epithelial matter, but not by any means constantly obstructed or blocked up, although they may be irregularly dilated, &c." "The third variety of morbid change is that so familiar to observation as the dwindled, granular, kidney."†

When we consider the temporary nature of the albuminuria in many of the cases of paralysis, we need have little doubt that the condition of the kidneys answers to the first variety here described, or that of extreme congestion, and this opinion is confirmed by the examination of Case 35, in which we found a high degree of congestion, which had indeed passed into a more advanced stage. I think, therefore, that we may fairly assume that the albuminuria is due to a congested state of the kidneys, and I confess I cannot but think that the explanation given by Dr. G. Johnson and others, that this congestion is excited by the effort to eliminate some noxious element from the blood, is more in accordance with our present knowledge than any other, yet I must not omit to mention that by some this congestion has been attributed to pressure of the gravid uterus upon the renal vessels. Dr. Seyfert, as we have seen, rejects this mechanical explanation, and seems to attribute the albuminuria to the eclampsia, in consequence of the interruption of the functions of respiration and circulation.

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* Diseases of the Kidney, p. 105.

† Medical Times and Gazette.

But if the former theory be true, what is this morbid element, morbid in kind or degree? It is very difficult to answer this question. Dr. Simpson suggests that it may be an excess of the urea or some morbid quantity or quality of caseine in the blood. Dr. George Johnson's observations seem to prove that in these cases, in addition to a change in the proportion of the normal constituents of the blood, of which the diminution of its albumem is one, there is always an excess of urea.

Then it may be asked, "to what is the effect upon the nervous system owing?" One can conceive that it may result either—1. From the continued presence of the noxious principle in the blood; or, 2. From the balance of the constituents of the blood having been destroyed; or, 3. From the diseased condition of the kidney,—though to which of these we ought to attribute it, would be difficult to decide.

But at whatever conclusion we arrive with respect to these interesting points, I am sure all will agree with me, that, taking the circumstances into consideration, it is probable the kidneys play a more important part in these paralytic affections than has been suspected, and that the subject deserves more attention than it has received. For, we find that in cases of convulsions terminating in paralysis, we may have albuminuria; in paralysis before delivery, without convulsions, we may have albuminuria; in paralysis occurring after delivery, we may have albuminuria; and further, that in the slightest cases, both the convulsions and paralysis diminish with the decrease of the albuminous secretion. Whether therefore the paralysis be caused by the state of the kidneys; or the renal congestion and paralysis be both the result of some morbid matter in the blood circulating through the system; it is clear that a new element may be added to those which have usually been considered as giving rise to paralysis.

890. Nor is this barren theory only, but, if it be true, it has a direct bearing upon practice, inasmuch as our attention ought not to be confined to the secondary affection of the nervous system in such cases, but must be directed to the relief of the renal malady, and to the restoration of the kidneys to such a state of efficiency as may enable them to remove the morbid constituents of the blood; and for our

encouragement, we have seen that a diminution of albumen in the urine is followed by mitigation and cure of the paralysis. For the latter affection, blood-letting, general when the system will bear it, or local by means of leeches or cupping; blisters, purgatives, and mercury, are the remedies usually employed; these must be modified according to the condition of the patient, the circumstances of the attack, and the duration of the disease. When much blood has been lost during labor, blood-letting must be omitted, and we must confine ourselves to counter-irritation; perhaps a series of small blisters to the neck, down the spine, or along the limb, will be the best mode of proceeding. The patient's strength must be supported judiciously by good diet, and it is quite possible that some stimulant, such as ammonia or camphor, may be necessary. When the paralysis has become chronic, strychnia or galvanism may be found useful: and I believe Dr. Stokes has found galvanic acupuncturation very beneficial in facial paralysis.

The renal disorder should never be treated by diuretics, but by external irritants, such as mustard poultices, or rubefacient liniments to the loins, and internally by diaphoretics, as suggested by Dr. Osborne,* of this city, and when more chronic, by gallic acid, iron, &c.

CHAPTER XVIII.

ARTERIAL OBSTRUCTION IN PUERPERAL WOMEN.

891. VERY closely connected with the foregoing subject is the effect of arterial obstruction in childbed, although the disease is much less frequent. Drs. Richard and Kirkes had noticed the effect of obstruction caused by detached vegetations blocking up an artery, but Dr. Simpson is the first to have collected a number of cases and attempted an arrangement of them. He published his first case ten years ago,† and to this he has now added four others from various sources.‡ I shall briefly quote these latter, as being the most graphic description of the disease.

"A lady, æt. 28, was prematurely delivered at the seventh month. For three weeks she made a good recovery, when she became slightly feverish, with a general miliary rash on the skin and occasional diarrhœa, accompanied by abdominal pain. The lochia were hemorrhagic in a few days. At this time the pulse was 120 and intermittent. Pains of a neuralgic type were complained of in the right limb: they subsequently moved to the left leg, and became permanent and severe. Seven weeks after delivery sudden pain was complained of in the groin, over the vessels, which was relieved by leeching. A systolic bruit was now heard on the left side of the heart. The pulse became suddenly arrested as high as the elbow, but no pain was complained of at the seat of occlusion. In a short time, with the exception of the left arm, the pulse in the extremities ceased, though it returned a few days before death. Gangrene set in on the left leg ten weeks after delivery. On a post mortem examination, the left heart was filled with dark coagula. A large soft valvular excrescence was situated at the aortic aperture. It was composed of three portions, that on the right valve being the largest; and from its soft texture seemed to be of recent formation. The auriculo-ventricular aperture exhibited few traces of vegetations. At its bifurcation, the aorta was obstructed by a firm conical coagulum, not attached to the arterial walls, which extended for a couple of inches into the iliac vessels, and which contained in its interior portions of structure physically and histologically the same as the cardiac excrescence. In both extremities the vessels were blocked up by similar coagula. There was an obstruction in the artery of the right arm, the vessels being much thickened and containing pus."

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* On the Nature and Treatment of Dropsies, &c. 1837.

† Edin. Monthly Journal, 1847.

‡ Ibid. Feb. 1854, p. 175.

In another case furnished by Dr. Macfarlane of Glasgow, the obstruction occurred ten days after the delivery of a fifth child. Acute pain and numbness were complained of in the right arm, that continued till death, which took place three weeks after. There was no pulsation below the elbow; some could be felt in the right thigh. Gangrene commenced four or five days after. On dissection the aortic valves were found encrusted with vegetations. The aorta itself was atheromatous, and firm fibrinous clots, with a nucleus of substance like a cardiac excrescence, existed in the middle of the brachial and in the iliac arteries.

Dr. Lever, of Guy's Hospital, communicated a case to Dr. Simpson in which gangrene of the left arm and leg followed acute rheumatism during pregnancy. Both in the arm and limb the pain was excessive. Vegetations existed on the valves of the heart, and were found in the arteries of both extremities. The veins contained fibrinous deposits also.

In a case contributed by Dr. Burrows, of St. Bartholomew's, hemiphlegia suddenly occurred when the patient was recovering from symptoms due to overlactation. A loud rasping systolic murmur was audible. The patient ultimately died of ramollissement of the brain. A post mortem examination revealed the existence of vegetations on the mitral and aortic valves. The left *corpus striatum* was a mere diffluent pulp. The middle cerebral artery was obstructed by a vegetation the size of a grain of wheat. The arteries of the limb were not examined.

This latter case is similar to those related by Dr. Kirkes, in which a vegetation passed up the carotid and obstructed the vessels of the brain, chiefly the middle cerebral, and gave rise to softening.

892. Dr. Simpson has assigned the following causes for the production of the disease after delivery: 1. The separation of organised vegetations from the aortic valves. 2. The escape of recently formed unorganised masses of coagulum from the heart, and thence discharged into the circulation. 3. The occurrence of a true arteritis. 4. Certain diseased conditions of the blood, or certain morbid matters carried along in its current. 5. In one case laceration of the inner coat.

In illustration of these points, I must take the liberty of quoting very largely from the report given of this most interesting paper.

"1. In the five preceding cases the cause was apparently the same, viz. the first which had been previously mentioned, and for the following reasons: first, because in all, the aortic valves were affected with vegetations; secondly, because one or more loose bodies, presenting a perfect similarity to these vegetations, were found in the obstructed arteries; and thirdly, the suddenness of the supervention of the arterial obstruction further shewed the nature of the obstructing cause. Other circumstances rendered it probable that this cause was the true one. In three of the cases endocarditis was present either before or during pregnancy, as in Dr. Lever's case, while in Dr. Moir's the lymph on the valves was of still more recent origin, the result of puerperal endocarditis. Again, it is well known that similar morbid structures do separate from their place of growth. The so called foreign bodies in joints, polypi from mucous surfaces, and the cases described by the late Dr. John Reid, of the separation of polypoid bodies from the external surface of the peritoneum and pleura, might be instanced. But in the heart these vegetations are much more liable to be displaced; 1st, from the looseness of their attachment; 2nd, from the constant motion of the parts, and 3rd, from the contact of strong fluid currents, to which they were subjected. When detached, they were hurried into the circulation and arrested at last in vessels of their own calibre. If the mass were large, it would be arrested at the bifurcation of the aorta; if smaller, it might pass into any of the aortic branches, as the left carotid, though the reason given by Ruhl, that this vessel lies more in the current of the blood, is not so satisfactory. When the vegetation is arrested, new coagula rapidly form around it, and inflammation of the internal tunics might then take place secondarily; in the 2nd case it ultimately involved the femoral vein. Lastly, the mass might become disintegrated and broken down.

2. The second cause has reference to morbid matters coming from the heart itself; for example, the globular polypi found in its cavity might, if small, be sent along its circulation. And though not actually separated, they may yet cause obstruction. The rough surface of the

heart and valves in endocarditis might also suddenly arrest and entangle the fibrine of the blood, and polypi, thus formed and becoming detached, might produce similar effects. The experiments in which foreign bodies, as needles, &c., were introduced into the ventricle illustrate this. Cruveilhier mentions the occurrence of gangrene of an extremity after such an accident, a needle passed accidentally into the left ventricle, and formed a nucleus around which fibrinous coagula formed, and from which they separated and were projected into the vessels. And a case of endocarditis, which supports the view in question, is related by Legroux. A case of Dr. Macfarlane's was mentioned, in which there were no vegetations, but in which coagula, in which no hard nucleus could be detected, were found to be the obstructing cause. The patient had had rheumatic fever, and died ultimately of general dropsy.

3. Of the third cause, viz. local inflammation of an artery, Dr. S. gave an instance in a case which happened to Dr. Duncan, when surgeon to the Royal Infirmary. Acute gangrene of both extremities occurred four weeks after delivery, and the patient speedily sank. No disease was found in the heart, but an adherent fibrinous effusion blocked up the aorta a little above its bifurcation, and passed down into the iliacs. It was a true arteritis. The aorta was thickened and coagulable lymph coated the upper portion of the coagulum. A similar case of puerperal gangrene was read from Dr. Cowan.

4. The fourth cause of arterial obstruction was certain diseased states of the blood, or morbid matters circulating in it. In puerperal phlebitis there are particles of pus and fibrine circulating in the blood; at first passing from the uterine veins to the right side of the heart, and becoming deposited in the lungs, liver, &c. Now pus or fibrine is known to serve as a nucleus for coagulating the blood; and in the pulmonary or other arteries sometimes leads to the formation of obstructing masses. Two cases of puerperal obstruction of the pulmonary arteries from this cause were given from Cruveilhier; and the possibility of various morbid appearances in the liver, spleen, &c. being explicable by the same cause, was dwelt upon.

5. Lastly, we may possibly have puerperal arterial obstruction from rupture of the internal coat of the artery, as has been so well described by Dr. Turner. Dr. S. referred to an interesting case, supposed to be of this kind, described by Dr. Oke of Southampton, in 1831. The patient was æt. 24, and had aborted. Hemorrhage. followed by uterine pain, ensued. Severe headache, with dimness of vision, now set in; and the left arm became cold and pulseless, and gangrene supervened. It was limited however to the integuments of the thumb and part of the hand. There was no embarassment of the respiration, and recovery followed. On enquiry he learned that pulsation had returned, the patient was still alive, and had no cardiac symptoms. Other cases of puerperal arterial obstruction ending in gangrene were described."

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893. *Symptoms.*—These vary somewhat according to the artery obstructed—cessation of the pulsation in the limb, pain, often intense, paralysis, and ultimately gangrene, seem to be the most characteristic symptoms.

If, as in Dr. Brennan's case, the cerebral arteries be obstructed, we may find softening and hemiplegia.

The concurrence of these symptoms with valvular disease of the heart, will at once excite our suspicion, not only of obstruction, but of the special cause of it.

894. I am not aware of any treatment which has been found useful.

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